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Commission Analyzes 16 Paper Corporations

Combined Net Income On Borrowed Total Capital of $688,226,606 Employed By These Firms In 1939 Was $45,794,790, Or A Rate of Return of 6.7 Per Cent On Total Employed Capital For Year.

A report on "Paper and Pulp Manufacturing Corporations", in the Federal Trade Commission's project for the collection of annual financial reports from a large number of industrial corporations operating in many of the principal industries of the United States, was issued on March 11.

The sixteen manufacturers of paper and pulp whose financial reports are combined, represent sixteen of the more important concerns in this industry both from the standpoint of investment and value of goods sold. The "Paper and Pulp" industrial classification, as used, refers to corporations that engage in the manufacture of pulp primarily from wood, and from rags and other fibers; the conversion of these pulps into any kind of paper and paperboard; and the manufacture of paper and paperboard into converter paper products. The data are shown in combined form and in a manner that does not identify the results of any individual corporations.

Products Valued at Over 1 Billion in 1937

The latest available report of the Bureau of the Census shows that the combined "value of products" for the "Paper and Pulp" manufactures, on an establishment basis, amounted to $1,205,131,721 for 1937.

The sixteen corporations included in this survey reported consolidated sales for the year 1939 aggregating $425,487,261, or slightly more than 35.0% of the total value of products reported by the Bureau of the Census for 1937. Of this total amount of sales, $397,103,404, or 93.3%, represented domestic sales, and $28,383,857, or 6.7%, represented export and foreign sales.

The costs and expenses applying to the goods sold in 1939, or the total operating outgo (including raw materials, wages, taxes, depreciation, etc.) amounted to $381,811,570.

Industry Capitalized at $688,226,606

The combined net income (before deduction of interest on long-term borrowings and income taxes) on the average total capital of $688,226,606, employed by the sixteen corporations in 1939, was $45,794,790, or a rate of return of 6.7% on the total employed capital for the year. Eight of the sixteen corporations had rates of return higher than the average, and their rates ranged from 6.7% to 15.1%. The rates of return for the other eight corporations were lower than the average, and their rates ranged from a profit of 2.6% to a profit of 6.6%.

The net income on the average corporate net worth investment, or stockholders' equity, after provisions for income taxes, was $29,975,329, and this was 5.8% of the stockholders' investment. On this basis, the rates for fifteen corporations ranged from a profit of 1.4% to a profit of 13.0%, while the other corporation had a loss.

During the year 1939 the sixteen paper and pulp manufacturing corporations realized a net income, after provisions for the payment of income taxes and deduction of minority interests and profits, amounting to $29,805,003. The cash dividends paid, or accrued, for 1939 amounted to $6,691,011 on the preferred shares, and to $7,748,674 on the common shares. The cash dividends paid, or accrued, represented a return of approximately 2.8% to the stockholders on the average ledger value (not market value) of their equity of $520,869,126.

All of the corporations whose reports are combined were called upon to submit income and expense statements showing the principal elements of the cost of goods sold, such as direct materials, production wages and salaries, etc. Three of the corporations replied to the effect that the principal elements of costs and expenses were not readily available from their records.

Earnings 22.4 Cents Per $1 of Sales

The 1939 operating ratios for the thirteen of the sixteen paper and pulp corporations show that the cost of goods sold by the thirteen corporations (exclusive of taxes, research and development, selling and administrative expenses, etc.), represented 77.6% of the

(Continued on page 18)

May Utilize Hardwood Pulp for Newsprint

United States Forest Products Laboratory Announces Experiments With Process Using Neutral Sulphite Semi-Chemical Pulp Appear Successful—Kimberly-Clark Expanding—Other Late Mill News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 10, 1941—Possibility of using hardwood pulp for newsprint is announced by the United States Forest Products Laboratory at Madison, Wis., which has been conducting experiments that appear to be successful.

The process utilizes hardwood neutral sulphite semi-chemical pulp. One of the samples made contained 25 per cent of birch semi-chemical pulp and 75 per cent of jack pine groundwood. Other experiments have been made in which the hardwood content was increased to as much as 55 per cent of the total furnished by increasing the amount of semi-chemical pulp and incorporating groundwood pulp made from birch.

One sample given a printing test contained 35% birch semi-chemical, 20% birch groundwood and 45% jack pine groundwood, together with dye and size. The birch semi-chemical pulp was obtained in better than 80% yield, or about 2,500 pounds of air-dry pulp per cord. The birch groundwood was made with an energy consumption of 67 h.p. days per ton, although a similar quality of groundwood has been made from birch with as low as 50 h.p. days per ton. The jack pine groundwood was made with a power consumption of 66 h.p. days per ton.

The properties of the paper compared with average values (given by the Laboratory) for 28 samples of "commercial" news print are as follows:

	This Sample	Average News Print
Ream weight (25x40—500)	38.7	37.0
Thickness (0.001 inch)	3.47	3.21
Solid fraction	.41	.43
Burst factor	.25	.25
Tear factor	.57	.47
Tensile strength (lb./sq. in.)	2835	2592
Stretch (per cent)	2.25	1.00
Castor oil penetration (seconds)	74	48
Ash (per cent)	1.37	.....
Gloss (per cent)	30.02	42.0
Porosity (seconds)	55	52
Opacity (per cent)	90.8	92.5
Blue color (Ives)	61	58

It is notable that although the sheet contained 20 per cent of the relatively low-strength birch groundwood, the properties of the paper compare favorably with the average properties of the "commercial" samples. The increased amount of semi-chemical pulp probably accounts for these properties being slightly better than those previously obtained from the birch semi-chemical and pine groundwood pulps alone. In addition, this sheet was somewhat easier to run than a former one. The results would therefore indicate a possibility of using a considerable quantity of hardwoods for news print through the use of low-cost semi-chemical and groundwood pulps made from hardwoods, the Laboratory concludes.

Appropriate $632,500 For Research

Although attempts were made by congressmen to increase the appropriation for the United States Forest Products Laboratory at Madison, Wis., the committee finally recommended an appropriation of $632,500 for forest products research, the same as recommended by the budget bureau, and equal to the amount available for the current fiscal year.

It was pointed out that the investigation of timber utilization was important in connection with the national defense program, and the pulp supply of the paper mills. Representative Harry Sauthoff of Wisconsin, declared the laboratory is the victim of a "niggardly policy" at a time when it is being called upon increasingly for service to industry and the nation.

Kimberly-Clark Reports Steady Expansion

The extent to which Kimberly-Clark Corporation, Neenah, Wis., has increased production is shown in employment figures quoted by S. F. Shattuck, vice-president, in an address to the Neenah Club last week. More than 500 workers have been added in the last two years.

Employment enrollment in 1938 totalled 1,438 workers, increased to 1,739 in 1939, and amounted to 1,961 in 1940. Mr. Shattuck said.

Making an appeal for preservation of the present Wisconsin unemployment compensation law with its "experience rating" feature against the threat of federal authorities to compel adoption of the pool plan used in other states, Mr. Shattuck cited instances to prove the merit system among employers accomplishes stabilization.

When the corporation built a modern boiler plant at its mill at Niagara, Wis., he said, it might have thrown 40 men out of work. At the Lakeview mill at Neenah, Wis., a new part added to Kotex machines required fewer girls for operation. In each instance, however, no employees were discharged. In the latter instance, the new parts were not added until turnover in employees permitted. Through the interchange of employees in different departments and continuous check on the number of hours each employee works, the firm is successful in maintaining a full 40-hour work week for each employee, the speaker said.

Through careful calculations, Kimberly-Clark has reduced its rate of taxation under the compensation law from 2.7 to 1%. The firm has paid in taxes a total of $522,726 since the law has been in effect, but has paid out unemployment benefits of only $20,262, the corporation having paid in 26 times as much as it paid out. The Wisconsin law was enacted two years prior to the federal law, Mr. Shuttuck pointed out.

Sensenbrenner-Luedke Engagement

The engagement was announced last week of F. James Sensenbrenner of Chicago, Ill., and Miss Margaret Luedke of Milwaukee, Wis. Mr. Sensenbrenner is associated with the Chicago office of Kimberly-Clark Corporation. The wedding will take place this spring.

Dillard Paper Co. Made Agent

The Dillard Paper Company of Charlotte and Greensboro, N. C., and Greenville, S. C., has been appointed an agent for Forward Bond, the new 100 per cent rag bond recently introduced by the L. L. Brown Paper Company, Adams, Mass. The Dillard Paper Company will carry representative stocks, with envelopes to match, in all three divsions.

Stronger Paper Market Reported in Midwest

Broadening Out of Demand and More Stable Price Level Viewed As Definite Signs of Active Business In Future — Illinois May Adopt 40-Hour Week For All Intrastate Business — Other News.

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., March 10, 1941—The Chicago paper market continued to strengthen during the week. Demand continued strong and widened out to eliminate any spotty conditions that might have prevailed to date. With everything up to the list price and the "back lash" taken care of, local paper representatives expect definite upturns in the very near future due to a combination of improved buying and heavy taxes and production costs.

Krafts, with a fine 1940 record, continued active as a definite factor in the $100,000,000 sales niche. Demand was excellent and the tone very firm. Sulphites were consolidating an already strong position with prices strong in every grade, according to reports. Books and covers moved closer to breaking through current quotations as business volume increased. Groundwoods and newsprints likewise reported a good week while paperboard volume was good and prices firm. Waste papers held steady to firm with no appreciable changes in prices..

New Paper Carton Product

Through the food industry as well as through news from the New York meeting comes information concerning widespread acceptance of a new product of the Self-Locking Carton Company of Chicago which is known as the "Carry Safe" egg carton. The carton is a one piece affair with a separate cushion for each egg with no set-up nor fillers required. Compact in form, the carton is shipped ready to fill and contains other protective features which have made the product highly saleable and profitable to merchants handling the new item. The attractive appearance of the "Carry Safe" carton is reported to have also attracted favorable attention.

Illinois May Adopt 40-Hour Week

The Illinois Legislature swung into high gear this week with labor intensifying its efforts to pass State wage-hour legislation. The proposal to cover all intrastate concerns with a 40 hour week and time and one half for over time contains with it dictatorial powers to the labor department to set up minimum wage boards for specific industries which could increase wages far and away beyond the 30 cents an hour minimum specified in the Act. Of interest to those who pay the sales tax is the amendment to the Retailers Occupation Tax Act which would eliminate the "tax on the tax" feature. This is done by changing the base from 3% of the gross receipts to 3% of 97% of the gross receipts. If the bill, now in the Senate, were approved, it would mean savings to taxpayers of over $3,000,000 annually.

W. W. White Heads Paper Association

Chicago paper merchants were congratulating themselves with the election of W. W. White as president of the Western Paper Merchants Association. Mr. White operates the James White Paper Company of Chicago with the able assistance of three brothers. W. W. White has been perhaps the most active of the four brothers in trade association work, a member of various committees of the National Paper Trade Association and an active member of committees dealing with the cover paper committees. The Association which he heads will proceed in 1941 with the well rounded program of improved contacts, closer study of trade problems and creation of general fellowship which has characterized the group.

New lines listed in Chicago during the past few weeks include All Ditto Papers and Rexford Enamel added to the J. W. Butler Paper Company line, Lancaster Bond made by the Gilbert Paper Company to the Dwight Bros. Paper Company stock and Old Quill D.E., a product of the Rising Paper Company which has been stocked by the Midland Paper division of Crown Zellerbach. The United Manufacturing Company's popular Porthos Cover will also be found for the first time in the complete stock of the Moser Paper Company. High Speed Mimeo, from the Lee Paper Company mills, has been added by the James White Paper Company.

W. R. Zwecker Goes to Cheboygan

William R. Zwecker of New York has been appointed new manager of the Cheboygan mill of the North American Pulp and Paper Corporation, and has assumed full charge.

Mr. Zwecker had charge of production for the Ancram Paper Mill at Ancram, N. Y., maker of high grade tissues. Later he acted as consulting chemist in paper production, developing various high grade paper specialties and with residence in New York City.

In taking charge of the Cheboygan plant, he announced that the mill will continue to operate along the same general lines as in the past. In planning continued operation, he said, the North American Pulp and Paper Corporation is looking forward to successful production along efficient lines.

Laws on Marking of Containers

The National Paper Trade Association has distributed to its members a digest of State Laws involving the sale of commodities by weight and the marking of containers. This was carefully prepared by counsel and consists of 31 mimeographed pages covering the statutes of every state in the Union.

The information contained in this digest is of value to every merchant and manufacturer and provides a convenient reference source in meeting problems that may arise under laws and regulations affecting billing and marking of packages.

The National Paper Trade Association is offering to supply copies of this digest at 25 cents each and will fill promptly orders addressed to the office of the Association, 220 East 42nd St., New York.

Tribute Paid to Head of Scott Paper Co.

Employees Present President McCabe With Gift and Scroll In Commemorating His 25th Year of Service With Company—Fine Paper Division of Philadelphia Paper Trade Association Meets.

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., March 10, 1941—The employees of Scott Paper Company, Chester, Pa., on Tuesday last presented their president, Thomas B. McCabe, with an anniversary gift commemorating his twenty-five years of service with the company. With the gift, an antique platter, Mr. McCabe also received an engrossed scroll inscribed with an appropriate sentiment.

Mr. McCabe, who rose from the post of clerk in the sales department of Scott Paper Company, began his career there on March 1, 1916, less than a year after his graduation from Swarthmore College. His first promotion was to salesman then to assistant sales manager and in 1920 he became sales manager. In 1922 he was named secretary of the company and in 1927 vice-president. Shortly thereafter he was elected president, succeeding Arthur Hoyt Scott.

Company Has Steadily Expanded

Under his leadership the company has shown notable progress. In 1927 when Mr. McCabe assumed the office of president the number of persons employed was less than five hundred. Today, the number of employees of Scott Paper Company is 1,485. This does not include employees at the company's subsidiary plants at Nova Scotia, Anacortes, Washington and Coos Bay, Oregon. During the period of Mr. McCabe's presidency net sales of Scott Products increased from $5,765,642 in 1927 to $20,397,720 last year. The assets of the company have grown from $5,868,928 to $20,324,510 during the same period.

Recognition of Mr. McCabe's talent for business leadership was accorded him a few years ago when he was elected a director of the Federal Reserve Bank of Philadelphia; subsequently the Reserve Board elected him chairman, a post he now fills. More recently he has served as a member of the Advisory Commission to the Council of National Defense. In addition, he is a director of the Air Reduction Company, the Brunswick Pulp and Paper Company, Brunswick, Ga., and the Nova Scotia Wood Pulp and Paper Company, Ltd. He is also regional vice-president of the National Association of Manufacturers.

H. F. Dunning Tells Story of Scott Co.

An interesting history of the development of a business into a large industry, which has become international in scope and which has carried the manufacturing reputation of Chester to the far corners of the world was presented on Friday last to members of the Lions Club of Chester by Harrison F. Dunning of the Scott Paper Company.

The speaker dated the founding of the company to 1897 when the business was opened as a paper jobbing house in Philadelphia. He said that the tissue line was begun in a small way in 1890 when the business went into tissue conversion, a special branch of the paper industry.

A little known phase of the history of the business was a bicycle building venture in the "gay nineties" during which the paper business was abandoned temporarily. A return to paper manufacture took place in 1899 when a paper plant was built in Philadelphia. The business under the guidance of the late Arthur Scott was moved to Chester in 1905. Foresight of the leader of the business was said to have led to hitherto unknown standardization of the products. This history followed the developments until 1920 when hard times reduced the business to a serious low. This crisis was passed by the generation of almost superhuman efforts by a sales force which went into the field with products which soon made the plant hum.

Solid Foundation Laid in 1926

The late E. S. Wagner, and the present Thomas B. McCabe succeeded to company control in 1926. From the year 1926 to the present time the story unfolded a local industry which upon the firm foundations of its founders has progressed to its present enormous proportions bringing employment to 1,485 persons.

Old methods of production were compared with those of the new million dollar paper-making machines which have kept pace with the growing consumer field created by a sales force always expanding. Quality and careful inspection standards in the product were said in themselves to be of great influence on the ability of the sales force to expand the consumer field.

Turning to the raw material field, Mr. Dunning told of the acquisition of sources by ownership of pulp mills in the south, Nova Scotia and the northwest. This it was said would enable the plant to meet present source shortages for about 60 per cent of the needed material with other sources creating the remainder needed.

A personnel man, Mr. Dunning told briefly of the plans of the company now in operation to give advantages to the workers. These include a beneficial organization; stock sharing purchase plans; educational assistance and insurance.

Fine Paper Men Meet

George Weaver, president of The Paper Trade Association of Philadelphia, and vice-president of Garrett-Buchanan Company, called a special meeting of the Fine Paper Division of the Assocation today at the Downtown Club at 12:30 o'clock. Harry Londergan, director of Statistical Research Division of the National Paper Trade Association, was guest speaker. Mr. Londergan, with the aid of graphic slides, presented some very interesting statistics on the results of 1940 on fine paper.

Ottawa Drafts Another Paper Man

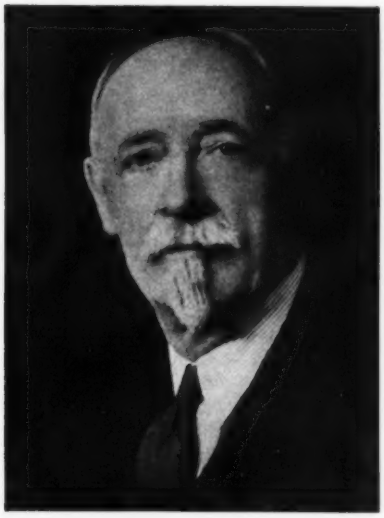
TORONTO, Ont., March 11, 1941—E. N. Little, general manager of Anglo-Canadian Pulp and Paper Mills and of the Gaspesia Sulphite Company, has been appointed to direct the Dominion government's new wartime bureau of technical personnel.

Obituary

Albert H. Standley

A portrait is presented herewith of Albert H. Standley, president of the Downingtown Manufacturing Company, of Downingtown, Pa., who died February 10, and whose death was briefly referred to in an earlier issue of the PAPER TRADE JOURNAL.

Mr. Standley's health had been failing for the past two years, but he continued to take an active interest in the business up until about two months before his death.



ALBERT H. STANDLEY

He was born 68 years ago in Watertown, N. Y., and began his career as a machinist with the old Watertown Steam Engine Co. A few years later, he went with the Bagley & Sewall Company of Watertown. The years he spent in their Engineering department formed a foundation for his life work in building paper mill machinery.

In 1906 he came to the Downingtown Manufacturing Company as chief engineer. He was elected vice president and shop superintendent in 1909 and in 1932 became president.

He was a life member of the American Society of Mechanical Engineers, a trustee of the Central Presbyterian Church of Downingtown, and a member of the Rotary Club. He took an active interest in all worthwhile community projects and contributed generously to charities. He is survived by his wife, Ottelia Verna Standley, and four brothers. He will be sadly missed by the officers and employees of the company he served for so many years.

Arthur J. Wagner

Arthur J. Wagner, of 78-23 New Woodhaven boulevard, Glendale, Brooklyn, N. Y., proprietor of the Holyoke Coated and Printed Paper Company, 454 Broome street, New York died suddenly on March 2 of a heart attack.

Mr. Wagner was born in Brooklyn 37 years ago, the son of Mr. and Mrs. Arthur Wagner and lived in Queens for the last 13 years. He had been active in the paper trade for 20 years and started his own firm six years ago.

He is survived by his widow, Muriel; two daughters, Carol and Jane, and three sisters, Ethel, Florence and Dorothy. The funeral was held with a solemn mass of requiem at the R. C. Church of the Sacred Heart in Glendale. Burial was in Charles Cemetery.

Claude C. Hockley

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., March 10, 1941—Announcement is made of the death Tuesday, March 4, at Portland, Oregon, of Claude C. Hockley, Sr., formerly of this city. Mr. Hockley was 62 years old. For a number of years he was employed as engineer for the Thilmany Pulp and Paper Company, Kaukauna, Wis., and left there to take a position on the west coast. He had been in ill health for about a year.

Milk Cap Men Answer Complaint

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 12, 1941—Milk Cap Statistical Bureau, Philadelphia, and 12 manufacturers alleged to represent more than 75 per cent of the total business of the paper disc milk bottle cap industry, have filed answers to a complaint issued by the Federal Trade Commission which charged conspiracy to prevent price competition and restraint of trade.

The respondents filing joint answer are: The Milk Cap Statistical Bureau, George J. Lincoln, Jr., Ray W. Blodgett, George W. Rohrbeck, Robert H. Schulz, Atlas Paper Box Company, Great Lakes Bottle Cap Company, Robert S. Leonard Company, L. Levingston Company, Mid-West Bottle Cap Company, National Manufacturing Company, Ohio Bottle Cap Company, Piqua Cap Company, Sealright Company, Inc., Smith-Lee Company, Inc., and Fowler E. Macy Company. The respondent Standard Cap and Seal Corporation filed a separate answer.

The answers deny that the respondents have engaged in any conspiracy, as alleged, or that competition has in any way been restrained, lessened or injured by them. The answers further deny that the respondents have agreed to maintain uniform prices, discounts and other conditions alleged in the complaint for the sale of disc milk bottle caps, and declare that the caps represent a completely standardized commodity, approximately 90% of the manufacturers' sales of which are made through jobbers in substantial uniformity of published prices, discounts and other conditions throughout the country, both before and after the creation of the respondent Bureau.

The answer admits that the respondent manufacturers have furnished the Milk Cap Statistical Bureau with lists of dairies under contract to them, and that the respondent Bureau from time to time issued a "jobber rating book" for use of the respondent manufacturers, which rated all jobbers of bottle caps who purchased 350,000 or more of caps annually, but denies that the manufacturers agreed to abide by the rating book in determining prices or discounts to be allowed jobbers.

The answer denies that the respondents have used or are now using any methods or means designed to restrict or restrain the sale of paper disc milk bottle caps.

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending March 12, 1941

	High	Low	Last
A. P. W.	30¾	29¾	30¾
Armstrong Cork Co.	9⅜	8⅞	9⅛
Celotex Corp.	69	68½	68½
Celotex Corp., pf.	4¼	3⅞	4
Certain-Teed Products Corp.	30¼	28	28½
Certain-Teed Products Corp., pf.	18¾	18¾	18¾
Champion Paper & Fibre Co.	....	....	....
Champion Paper & Fibre Co., pf.	17⅝	17½	17½
Congoleum-Nairn Co.	14¼	13⅝	14⅛
Container Corp. of America	8⅛	8	8
Continental-Diamond Fibre Co.	13⅜	13	13⅜
Crown-Zellerbach Co.	87¾	87	87¾
Crown-Zellerbach Co., pf.	14⅛	13⅝	14
Flintkote Co.	2	1¾	1¾
Robert Gair	18	17¼	17⅜
Robert Gair, pf.	14½	13⅜	13½
International Paper & Power	67½	65	65
International Paper & Power, pf.	59	56¾	59
Johns-Manville Corp.	127	127	127
Johns-Manville Corp., pf.	31¾	31	31
Kimberly-Clark Corp.	28¾	28	28¾
MacAndrews & Forbes	....	....	....
MacAndrews & Forbes, pf.	25½	25	25
Masonite Corp.	8⅜	7¾	7⅞
Mead Corp.	71	71	71
Mead Corp., pf.	30¾	30	30
Paraffine Companies, Inc.	101¾	101¾	101¾
Paraffine Companies, Inc., pf.	15⅛	14	14⅞
Rayonier, Inc.	28¼	27⅝	28⅛
Rayonier, Inc., pf.	17¼	16½	16½
Ruberoid Co.	37	36½	37
Scott Paper Co.	113½	113	113
Scott Paper Co., pf.	21¼	21¼	21¼
Sutherland Paper Co.	11½	10¾	11¼
Union Bag & Paper Corp.	3	2⅞	3
United Paperboard Co.	64⅝	61¾	64¼
U. S. Gypsum Co.	175	173½	175
U. S. Gypsum Co., pf.			

New York Curb Exchange

High, Low and Last for Week Ending March 12, 1941

	High	Low	Last
American Box Board Co.	....	....	....
Brown Co., pf.	15⅞	14¼	15⅞
Great Northern Paper	40	39⅞	40
Hummel-Ross Fibre Corp.	6	6	6
National Container Corp.	11½	11¼	11½
St. Regis Paper Co.	2⅛	2	2⅛
St. Regis Paper Co., pf.	81	76	80
Taggart Corp.	3	3	3

Fraser Companies Profits Rise

The annual report of Fraser Companies Limited shows operating profits up over 80 per cent from the preceding year at an all-time peak. Net earnings were equal to 99½ cents a share on the outstanding capital stock, as against a net loss after all charges for 1939.

Before interest, depletion, depreciation and income taxes, consolidated earnings (of Fraser Companies, Fraser Paper and Restigouche Company) set a new high record for the company at $3,221,641—an increase of $1,453,112 as compared with the 1939 figure of $1,768,529, and of $169,845 over the previous record of $3,051,796 in 1937.

Total interest charges were reduced by $34,945 to $859,877, but depletion and depreciation were increased by $599,682 to $1,682,026 and provision for Dominion income and excess profits taxes (at the combined rate of 30 per cent) and for provincial income taxes required $310,500, which left net income $369,237 as compared with a net loss of $208,638 for 1939.

The balance sheet shows that reduction of $1,907,857 in fixed liabilities was accounted for by payment of $501,957, which lowered the special loan of Fraser Companies to $1,200,000; by full discharge of the $369,900 special bank loan of Fraser Realties, and by purchase of $880,000 principal amount of Fraser Companies bonds and of $156,000 principal amount of Restigouche bonds.

Aubrey Crabtree, president, said in the report that "the pulp and paper mills at Edmundston, New Brunswick, and Madawaska, Maine, operated at a higher percentage of capacity than during the previous year. The earnings reflect an improvement in prices. There was a more steady demand for sulphite pulp produced by the Restigouche Company at somewhat improved prices. Lumber sales were slightly greater in volume and at higher prices than during the previous year."

Crown Zellerbach Earns $1.62

An increase of $7,667,779, or 18.4% was experienced by Crown Zellerbach and its subsidiaries in sales for the nine months ended January 31, as compared with the like period a year ago. Consolidated net profit, however, showed a decrease of $139,699, due to an increase of $3,849,019 in taxes accruing to the United States and Canadian governments, the company reported.

For the first nine months of its current fiscal year, ended January 31 last, consolidated net profit of $5,657,933, equal, after preferred dividends, to $1.62 a share on 2,261,199 shares of common stock outstanding, compared with $5,797,632, or $1.68 a share of common, for the like period of the preceding fiscal year.

A final common dividends for its fiscal year of 25 cents a share has been declared by the company, payable April 1 to stock of record March 13. This will bring total common dividends for the year to $1 a share.

Glatfelter Earnings Up

The report of P. H. Glatfelter Company, Spring Grove, Pa., paper manufacturers, for the year ending December 31, 1940, shows a net profit of $276,088.81 compared to $195,558.71 in 1939.

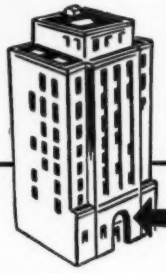
P. H. Glatfelter, president, stated to stockholders in part as follows: "Our gross income before depreciation for the year 1940 was 25 per cent greater than in 1939, and our sales were 17 per cent greater. The year was a difficult one from many angles. Costs of raw materials increased—competitive price situation affected the various grades which we manufacture. We look for a better demand during the coming year, and have fortified ourselves with a fair inventory of raw materials."

National Gypsum Profits Up

The National Gypsum Company in its pamphlet report for 1940 indicates a net profit of $1,565,196 for the twelve months, which is equal, after preferred dividends, to $1.03 a share on the common stock, compared with $1,455,237, or 94 cents a share, in 1939.

In his summary, Melvin H. Baker, president, reports that taxes rose 52 per cent to $828,362, and

It shortens the distance from here...



Bell System Teletypewriter Service to plants and branches puts all operations "under one roof"

• Many manufacturers have found that delays in communication between headquarters, branches and plants can be corrected with the help of Teletypewriter Service!

"Talking in type" is the quick, modern way of transmitting inter-company messages to two or more points—300 yards or 3000 miles away. As you talk back and forth, it reproduces every word exchanged, *in typewritten form.* Accurate as the written word, it is today's answer to fast communication.

Maybe you installed Teletypewriter Service long ago. If your business has grown since then—new plants, new branches far away—perhaps expanded Teletypewriter Service will effect new economies. Why not make sure? A Bell System representative will gladly help. Just call him through your local telephone office.

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TELETYPEWRITER SERVICE

to here!

labor and material costs also increased during 1940. Since it was not possible to make comparable advance in prices, profit margins were less, although net sales amounted to $16,509,916 last year against $13,021,871 in 1939.

Current assets were $6,692,640 at the year-end, including $1,464,208 cash, and current liabilities amounted to $1,637,824. Total assets were reported as $20,895,630, a gain of $2,019,362 in the twelve months.

Investment of $2,381,164 for additions and improvements to its eighteen mills was made by the company last year. It is expected, according to Mr. Baker, that "further increases in manufacturing costs can be covered by the necessary increase in prices."

Dennison Votes Dividend

Directors of the Dennison Manufacturing Company has declared a dividend of $6 on its prior preferred stock, payable on April 1. Another dividend of $1.50 also voted on the prior preferred, payable on May 1, represents the two quarterly dividends of 75 cents each payable on the issue in the first half of the year 1941. Under terms of the recapitalization plan of 1939, for the fiscal year beginning on January 1, 1941, and for ensuing fiscal years, prior preferred stock is entitled to a fully cumulative dividend of $3 a share annually, payable quarterly as and when declared by directors, on the first day of February, May, August and November. Directors have therefore made declarations of 75-cent quarterly dividends for February 1, 1941 and for May 1, 1941.

For 1941 and ensuing years, the prior preferred stock will be entitled to an additional cumulative dividend of $3 a share per annum, but only if and to the extent that there are net earnings for such dividend available in each year. This dividend will be payable as and when declared by directors on the first day of April following the end of each year.

Great Northern Earns $2.87

The Great Northern Paper Company and wholly-owned subsidiaries for 1940 reports a net profit of $2,865,667, equal to $2.87 a share on 997,480 shares of $25 par capital stock, against $2,727,442 or $2.73 a share the year before. Current assets as of December 31, 1940, including $6,597,817 cash, amounted to $14,039,071 and current liabilities were $1,775,236, compared with cash of $5,985,933, current assets of $13,879,186 and current liabilities of $1,195,587 at end of preceding year. Inventories were $6,046,008, against $6,435,856.

Bathurst Earnings Higher

The financial statement of the Bathurst Power and Paper Company shows sharply higher sales and net profit. Gross income at $1,818,464 compared with $600,640 and net profit after taxes at $786,742 compared with $81,196.

The balance sheet shows a stronger position, with working capital higher by about $320,000 at $2,800,093. Cash stands at $423,272 marketable securities at $329,583 (market value $331,753), inventory at $1,914,719. Among liabilities, provision for taxes has risen from $16,714 to $504,330. Regarding the company's tax bill, President Weldon states that while it is impossible, currently, to determine the tax liability of the company to the Dominion Government, the amount provided is believed to be in excess of any taxes which may accrue in respect of the year 1940.

Capital additions to plant and equipment during the year amounted to $411,112. During the year the company acquired 175 square miles of timber limits, containing upwards of 500,000 cords of spruce pulpwood at a cost of $153,338. These limits are adjacent to the company's New Brunswick limits and relatively close to the mill at Bathurst.

Sorg Earnings Higher

A net profit of $185,548 was reported by the Sorg Paper Company after a directors' meeting on March 1.

Earnings before taxes totaled $242,548, less than $57,000 reserve for income taxes. Earnings compared with $136,783 in 1939.

A debt reduction of $100,000 was reported since December 31, when the total was reported as $350,000.

All officers were reelected. They include: J. A. Aull, president; D. J. Driscoll, executive vice-president; H. C. Johnson, vice-president; M. T. Hartley, vice-president; J. A. Aull, Jr., vice-president and treasurer; C. B. Stiles, secretary and assistant to the president; C. E. Aull, assistant secretary; A. J. Kerschbaum, assistant treasurer and L. H. Ritz, controller.

Directors, in addition to the officers, include, E. P. Bosworth, H. T. Kehew, C. J. Nicol, A. D. Sherman, W. B. Turner and E. H. Turner.

Container Corp. To Issue Stock

The Container Corporation of America, Chicago, has filed a registration statement with the Securities and Exchange Commission, covering the issue of 50,000 no-par values shares of cumulative, preferred stock.

Of the net proceeds from the financing $3,950,000 will be applied to payment in a like amount of outstanding promissory notes, the interest on which will be paid out of Container's general funds. The balance of the proceeds will be added to the company's general funds.

Dillon, Read & Co., New York City, will be the principal underwriter of the stock.

International Reports for Quarter

The board of directors of the International Paper and Power Company on Tuesday declared a regular dividend of $1.25 a share for the first quarter of 1941 and also a dividend of $1.25 a share on account of accumulations on the company's outstanding cumulative convertible 5 per cent preferred stock, both payable March 29 to holders of record at the close of business March 21. This payment will reduce the amount of accumulated unpaid dividends to $10.00 a share.

The board of directors of the International Paper Company, which also met Tuesday, declared a dividend of $1.25 a share on the company's outstanding cumulative 7 per cent preferred stock payable March 29 to holders of record at the close of business March 21.

Newsprint in Australia

MONTREAL, Que., March 10, 1941—News has been received here that Australia, which receives its newsprint from Canada has now begun the domestic manufacture of newsprint. Plans for this have long been under way, and have involved much experimentation with wood from the eucalyptus tree. The mill which has now come into production is situated at Boyer, near Hobart, and the company back of it, Australian Newsprint Mills Proprietary Limited, is owned by the leading newspapers of Australia. The pulp that is being used consists of two-thirds eucalyptus groundwood and one-third imported sulphite. The first newsprint produced is reported to be "a good sheet," and the hope is expressed that with experience the proportion of imported sulphite may be decreased. Commercial production is now in progress, and it is expected that the first shipments will be made around the end of the present month. The plant has a capacity of 27,000 tons per annum, or about one-eighth of Australia's newsprint requirements.

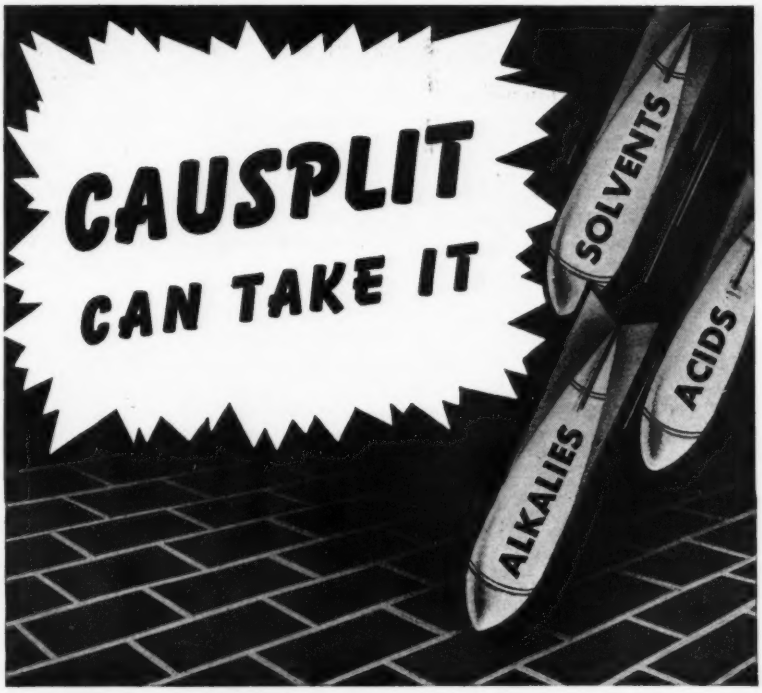
Pitch Control

Pitch control, one of the most acute problems confronting the pulp and paper manufacturing industry in America today, is the subject of a booklet just published by National Oil Products Company, of Harrison, N. J.

Citing production losses due to reduction in efficiency of the manufacturing equipment, frequent shutdowns and cleaning expenses, the booklet, titled "The NOPCO Method of Pitch Control," reviews the various methods being used to eliminate the pitch hazard.

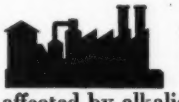
Special sections of the booklet are devoted to the emulsification of pitch and the "NOPCO Method." Success of this latter method is attributed in the booklet to an especially devoloped emulsifying and dispersing agent, tradenamed NOPCO 1216-V.

Other sections outline step-by-step procedures to be followed to obtain best results with NOPCO 1216-V, application of the process as it affects paper mills, tissue mills and pulp mills, and other important information to the pulp and paper manufacturer.



CAUSPLIT is a new quick-setting cement with amazing chemical and mechanical resistance. It withstands a wide range of strong acids, alkalies and solvents at temperatures up to 350°F.

In addition, it is easy to handle and free from bothersome acid ingredients. Extensive tests have proved Causplit to be first-rate for corrosion-proof construction of industrial equipment. Actually, Causplit is a considerable improvement over Asplit, which has been widely used in many industries for more than 7 years.



CHEMICAL PLANTS: Causplit is the ideal cement not only because of its resistance to hydrofluoric, phosphoric and other strong acid conditions, but also because it is unaffected by alkalies, such as caustic, soda ash and hypochlorites. Causplit naturally stands up under the salts of alkalies and acids in the linings of equipment and floors.

PULP AND PAPER MILLS: Used in pulp digesters and bleaching systems to withstand both acids and alkalies. For instance, it is unattacked by sodium sulphite, sulphurous acid, chlorine, as well as hypochlorite, caustic soda and soda ash. Its characteristics enable it to withstand both mechanical and thermal shocks. Here again Causplit can be used for both tank and floor work.

STEEL MILLS: Causplit is used in the equipment for both acid and alkali cleaning of steels. It is not attacked by hydrochloric and sulphuric acids in the strengths used in the steel industry. It differs from most other acid-proof cements in that it is also resistant to hydrofluoric acid, which is used in the stainless steel industry.

Write or wire us for FREE TEST KIT, including samples, booklet of information and test data showing Causplit's resistance to various acids, alkalies and solvents. Pennsylvania Salt Manufacturing Co., Widener Bldg., Philadelphia, Pa. — New York • Chicago • St. Louis • Pittsburgh • Wyandotte • Tacoma.

PENNSYLVANIA SALT
MANUFACTURING COMPANY
Chemicals

ANALYZES 16 CORPORATIONS

(Continued from page 9)

total sales. Of the total cost of goods sold, raw materials represented 42.1% of sales; production wages and salaries, 20.1%; other costs and expenses (not listed under "Expenses"), 9.2%; depreciation, depletion and obsolescence applying to production facilities, 6.0%; and finished goods purchased for resale, 0.2%. The gross margin was 22.4 cents on each dollar of sales.

The total of items listed as expenses represented 11.5% of the total sales. Of the total expenses, selling expenses represented 3.8% of the total sales; advertising, 0.9%; administrative and general office expenses, 3.7%; all taxes (except income taxes and social security payments), 1.6%; all social security and pension fund payments, 1.0% (ratio here is to sales dollar and not payrolls); and research and development expenses, 0.5%. After deduction of the items listed as expenses, together with provisions for uncollectible accounts of 0.3%, from the gross margin on sales plus other operating income of 0.5%, there was left a net profit from manufacturing and trading of 11.1 cents from every dollar of sales.

Total Inventories Show Decrease

Total inventories amounted to $92,999,238 at the beginning of 1939, and to $86,938,853 at the end of 1939, or a decrease of 6.5% in the inventories. Of the total inventories, finished goods and work in process combined, decreased from $28,760,077 to $25,059,759, or 12.9%; raw materials and supplies combined, decreased from $64,042,504 to $61,712,704, or 3.6%; and sundry inventories decreased from $196,657 to $166,390, or 15.4%.

A limited number of copies of the full report are available for distribution to those interested by the Federal Trade Commission, Washington, D. C.

Government Paper Bids

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 12, 1941—Government Printing Office has received the following bids for 136,800 pounds (2,400,000 sheets) of 19 x 20 white sulphite ledger paper for delivery to Engineer Supply Officer, Texas: Mudge Paper Company, 7.39 cents; Eastern Corporation, 7.05 cents; Old Dominion Paper Company, 7.1428 cents; Walker, Goulard Plehn Company, 9.18 cents; Graham Paper Company, 7.76 cents; R. P. Andrews Paper Company, 6.92 cents; Stanford Paper Company, 6.60 cents; Marquette Paper Company, 7.13 cents; Barton, Duer & Koch Paper Company, 6.85 cents; Mathers-Lamm Paper Company, 6.9 cents; and Cauthorne Paper Company, 6.94 cents.

For 438,900 pounds (7,700,000 sheets) same for delivery to Engineer Supply Officer, Columbus, Ohio: Mudge Paper Company, 6.54 cents; Eastern Corp., 6.75 cents; Old Dominion Paper Company, 7.0898 cents; Walker Goulard Plehn Company, 8.35 cents; Perkins Goodwin Company, 9 cents; Graham Paper Company, 7.37 cents; R. P. Andrews Paper Company, 6.48 cents; Stanford Paper Company, 5.90 cents; Marquette Paper Company, 6.636 cents; Barton, Duer & Koch Paper Company, 6.85 cents; Mathers-Lamm Paper Company, 6.9 cents; and Cauthorne Paper Company, 6.94 cents.

For 68,400 pounds (1,200,000 sheets) of same for delivery to Engineer Supply Officer, San Francisco., Cal.: Mudge Paper Company, 7.75 cents; Eastern Corp., 7.25 cents; Old Dominion Paper Company, 7.692 cents; Walker Goulard Plehn Company, 9.1 cents less 3%; Graham Paper Company, 7.95 cents; R. P. Andrews Paper Company, 7.09 cents; Stanford Paper Company, 6.60 cents; Marquette Paper Company, 7.33 cents; Barton, Duer & Koch Paper Company, 6.85 cents; Mathers-Lamm Paper Company, 6.9 cents; and Cauthorne Paper Company, 6.94 cents.

For 2,000 sheets of 24 x 36 Quaker drab cloth lined cover paper: Mudge Paper Company, $148.18 per M sheets; Barton, Duer & Koch Paper Company, $148.25; Whitaker Paper Company, $148.35; and Stanford Paper Company, $163.00.

For 14,400 pounds (300,000 sheets) of 100% rag, white bond paper: Paper Corporation of U. S., 19.97 cents; Stanford Paper Company, 21.75 cents; Barton, Duer & Koch Paper Company, 20.45 cents; Mudge Paper Company, 19.79 cents; Old Dominion Paper Company, 21.688 cents; Cauthorne Paper Company, 21.64 cents.

For 66,700 pounds (725,000 sheets) of 26 x 33 yellow writing paper: Mathers-Lamm Paper Company, 6.9 cents; R. P. Andrews Paper Company, 8.39 cents; Barton, Duer & Koch Paper Company, 7.75 cents; Stanford Paper Company, 7 cents; Eastern Corp., 7.37 cents and 6.77 cents; Mudge Paper Company, 6.94 cents; Virginia Paper Company, 7 cents; Cauthorne Paper Company, 7.03 cents (skids) and 7.28 cents (cases); Marquette Paper Company, 6.97 cents; and Ditto, Inc., 7.5 cents.

For 10,400 pounds (100,000 sheets) of emulsified paper: Stanford Paper Company, 9.5 cents; Whitaker Paper Company, 9.5 cents; Ditto, Inc., 8.6 cents; Mudge Paper Company, 9.43 cents; Virginia Paper Company, 9.4 cents; Barton, Duer & Koch Paper Company, 7 cents; and Mathers-Lamm Paper Company, 9.46 cents.

For 7,700 pounds of wood manila paper in 36" rolls: Paper Corporation of U. S., 4.64 cents.

Buys Paper Under Walsh-Healey Act

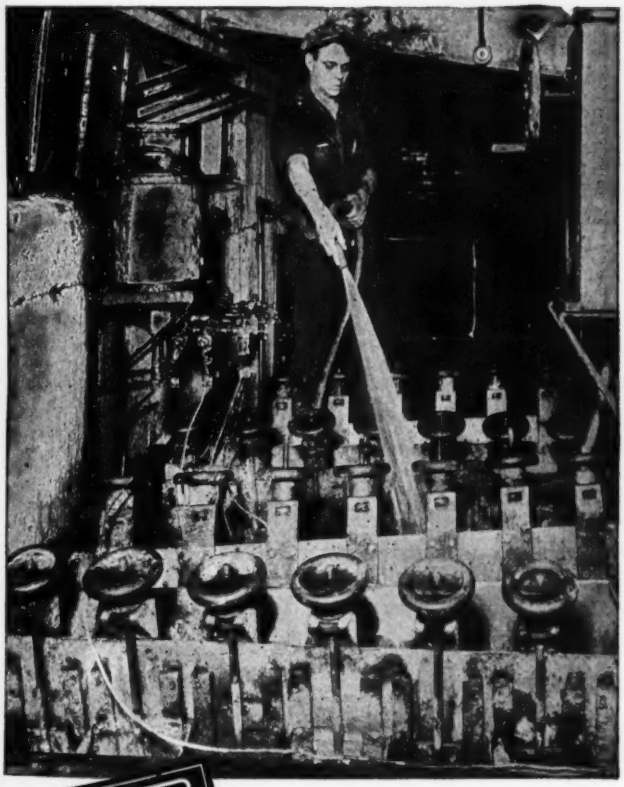
[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 12, 1941 — During the week ended February 21, the Government purchased $162,118.83 worth of paper and allied products under the Walsh-Healey Act as follows: $10,706.36 worth of book paper for the Government Printing Office, from R. P. Andrews Paper Company, Washington, D. C., $15,580.00 worth of paper files for Navy, S&A, from Burrows Filing Company, Inc., N. Y. C.; $60,030.80 worth of paper; bond, tissue, for Navy, S&A, from R. P. Andrews Paper Company, Washington, D. C.; $26,722.17 worth paper for Navy, S&A, from Mathers-Lamm Paper Company, Washington, D. C.; $20,134.00 worth paper towels for War, Med. Brooklyn, from West Disinfecting Company, Long Island City, N. Y.; and $28,945.50 worth of folders for Navy, S&A, from the Dunleavy Company, Boston, Mass.

Fort Orange Earns $109,551

The Fort Orange Paper Company for 1940 reports a net income of $109,851, against $102,876 earned in previous year; net sales, $2,181,813, against $1,995,571.

Does "SLIME" Get a Slice of Your Dividends?



If records in your mill reveal that slime is boosting production costs and taking part of your profits, there *is* something you can do about it!

Equipment made of ARMCO Stainless Steel fights slime to a standstill. Costly bacteria can't get a solid footing on its hard smooth surface. Result: Weak spots and paper-breaks virtually disappear. Shut-downs are fewer, cleaning time is saved. (Cost of slime removal from other materials is variously estimated at 5 to 15 cents a ton.)

What a boon ARMCO Stainless could be to your production—and your profits! With this rustless metal in your "key" equipment, clean pulp *comes out clean.* There is less waste. No costly rejects from contaminated pulp. Frequent rethreading is a worry of the past.

Besides lower production costs, ARMCO Stainless assures longer equipment life with less maintenance. And you get uniformly high yield of cleaner, more salable paper.

Would you like to cash in on the experiences of other mill men who have cut costs by using equipment made of ARMCO Stainless Steels? A note from you will bring complete information. The American Rolling Mill Co., 1061 Curtis St., Middletown, O.

ARMCO

ARMCO STAINLESS STEELS

NO HEATING

GARGOYLE VISCOLITE FLUID FOR OPEN GEARS

Lubricants

The Emblem of
75 YEARS' PIONEERING
in "Correct Lubrication"
1866-1941

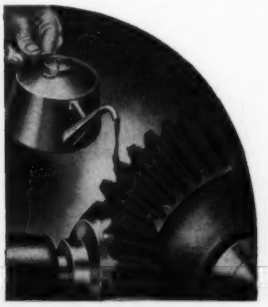
CALL IN **Socony-Vacuum** for

-Apply Like Oil

WORKS ON THE EVAPORATION PRINCIPLE

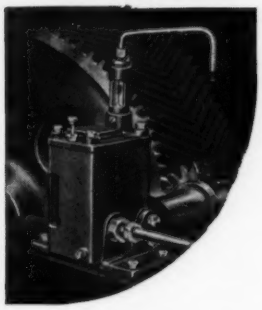
SPREAD WITH A BRUSH

Gargoyle Viscolite Fluid is sufficiently fluid to be applied by brush. Uniform distribution is attained by applying while gears are slowly rotated. When fluid dries, gears may be restored to service.



DRIP OILERS

Open gears may be lubricated without a shutdown by applying Gargoyle Viscolite Fluid through drip oilers at rates controlled to meet your individual requirements. Its quick distribution assures complete coverage.



POUR FROM A CAN

Under certain operating conditions, it may be more practical and convenient to pour Gargoyle Viscolite Fluid on open gear teeth. When applied in this manner, meshing teeth distribute the fluid uniformly.

MECHANICAL LUBRICATORS

Where it is practical to install mechanical force-feed lubricators on machines, they afford an ideal means for applying Gargoyle Viscolite Fluid to gears while in operation.

A CINCH TO PUT ON... Gargoyle Viscolite Fluid needs no preheating. Just apply like oil. After application, the diluent, which has been added, evaporates . . . leaving a strong, heavy cushion of lubricating film. Result—savings in consumption, labor.

OCONY-VACUUM OIL CO., INC. • Standard Oil of New York Division • White Star Division • Lubrite Division • Chicago Division • White Eagle Division • Wadhams Division • Magnolia Petroleum Company • General Petroleum Corp. of California

Correct Lubrication"

CONSTRUCTION NEWS

Atlanta, Ga.—The Gaylord Container Corporation, 2820 South 11th street, St. Louis, Mo., manufacturer of corrugated boxes and containers, has approved plans for new addition to branch plant at 276 Miller Reed avenue, S.E., Atlanta, consisting of a one-story structure, 90 x 200 feet, reported to cost over $85,000, with equipment. General erection contract has been awarded to Hardin & Ramsey, 161 Spring street, N.W., Atlanta, and work is scheduled to be placed under way at once.

Camas, Wash.—The Crown-Willamette Paper Company, manufacturer of kraft and other wrapping papers, book papers, tissue stocks, etc., has authorized early call for bids on general erection contract for proposed new addition to mill, previously referred to in these columns. It will comprise a four-story structure, 105 x 120 feet, to be used for expansion in paper-converting department, including additional storage and distributing facilities. It is reported to cost in excess of $150,000, including equipment. Company is a subsidiary of the Crown-Zellerbach Corporation, 343 Sansome street, San Francisco, Calif., and White Building, Seattle, Wash.

Manchester, Conn.—The Colonial Board Company, Parker street, manufacturer of paper board products, has approved plans for two new additions to mill, each one-story, 45 x 48 feet and 25 x 30 feet, respectively, to be used for general expansion. Contract for erection has been let to Knofla Brothers, Inc., 875 Main street, Manchester, and work will be placed under way at once. No estimate of cost announced.

Little Ferry, N. J.—The Flintkote Company, 50 West 50th street, New York, manufacturer of roofing and flooring papers, etc., plans new one-story addition to mill at Little Ferry for general operations, including portion for office service. Bids have been asked for structural steel framing and work is scheduled to be placed under way soon. Cost reported over $75,000, including equipment.

Oshkosh, Wis.—The Oshkosh Corrugated Box Manufacturing Company, Harrison and Murdock streets, manufacturer of corrugated boxes and containers, has begun erection of new addition to plant for expansion in production department, recently referred to in these columns, to be one-story, 60 x 191 feet, reported to cost in excess of $50,000, including equipment. The Fluor Brothers Construction Company, 48 Otter street, Oshkosh, has the general contract for erection. It is expected to have the structure ready for occupancy late in the spring.

Worcester, Mass.—The Vellumoid Company, 54 Rockdale street, manufacturer of paper specialties, will build two new additions to mill, instead of one structure, as previously noted in these columns, consisting of a two-story structure, 30 x 60 feet, for storage and distribution, and a one-story addition, 40 x 60 feet, for expansion in production division. Cost estimated close to 45,000, including equipment. Contract for both buildings has been awarded to Albert J. Daniels, 661 Main street, Shrewsbury, Mass., and work will proceed at once. Plans for structures also were prepared by last noted.

Stratford, Conn.—The Raybestos Company, East Main street, Stratford, a unit of Raybestos-Manhattan, Inc., same place, manufacturer of asbestos sheet materials, paper specialties, etc., has approved plans for new one-story addition, 60 x 360 feet, for expansion in production department. Cost estimated over $90,000, with equipment. General erection contract has been let to O. F. Burghart, 155 Island Brook avenue, Bridgeport, Conn., and erection will be placed under way at once.

Cleveland, Ohio—The Moser Bag & Paper Company, 2187-89 Ashland road, manufacturer of paper bags and containers, has begun erection of new one-story plant, 100 x 240 feet, in vicinity of present factory, to provide for considerable increase in present production facilities, storage and distributing department. It is reported to cost in excess of $80,000, including equipment. Completion is scheduled late in the spring. The A. M. Higley Company, 2036 East Twenty-second street, Cleveland, has the general erection contract.

New York, N. Y.—The Manhattan Stationery Company, 18 East 23rd street, paper products, etc., has leased an entire floor in building at 114-120 East Twenty-third street, totaling about 17,500 square feet of floor space, and will use for expansion in storage, distributing and other operating divisions. Company will maintain headquarters at first noted address, as heretofore.

New Orleans, La.—The Flintkote Company, North Galvez street, manufacturer of roofing and building papers, etc., has received low bid from Thomas H. Brockman Company, Inc., 1525 Verna street, for proposed two-story addition to mill, for general operations and office service, recently referred to in these columns. Award is scheduled to be made at early date. Billingsley Engineering Company, Interstate Building, New Orleans, is engineer. Main offices of company are at 50 West Fiftieth street, New York, N. Y.

Hamilton, Ont.—Kraft Containers, Ltd., foot of Cavell street, manufacturer of corrugated paper boxes and containers, has approved plans for new one-story addition to plant, for increased capacity in production division. It is estimated to cost over $65,000, including equipment. General erection contract has been awarded to W. H. Cooper Construction Company, Ltd., Medical Arts Building, Hamilton, and work will be placed under way at once.

Cap Madeleine, Que.—The Consolidated Paper Corporation, Ltd., St. Maurice Division, Sun Life Building, Montreal, Que., manufacturer of newsprint, is reported planning new one-story addition to mill at Cap Madeleine, to provide for expansion in production division. Cost reported over $75,000, including equipment.

Indianapolis Firm

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., March 10, 1941—Everything seems satisfactory in the paper market in this territory and this applies virtually to all items in the list. The entire price range is strong and in some instances some upward revisions have been made. No soft spots have been discovered and none are in prospect. Severe weather during the last week failed to slow up demand and the local manufacturers and jobbers are well pleased. They feel a change in the weather toward more springlike temperatures will add some impetus to demand.

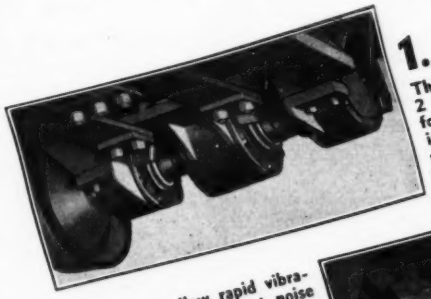
Kraft items seem especially well favored. Demand for the entire line has been heavy and inquiries lead to the belief that more business is in prospect. Prices are firmer and some increases were noted, though small in range.

While virtually no price changes have been noted in the fine paper market, they are likely since many jobbers feel they are not getting a proper margin of profit in view of all economic conditions. Every effort has been made here to prevent any radical increases in prices and the same attitude likely will prevail for some time to come.

Paper board demand continues at a high level and here also there have been some slight increases. Mills in this section are working practically to capacity and warehouse stocks are low. The situation is far better than it was a year ago. Container makers are getting ready for a big season with the coming of spring. Demand from breweries and the ice cream and allied trades who are heavy container users is expected to be better than it was a year ago.

Building paper and roofing continue to have a very heavy demand, particularly in view of weather conditions. Dealers already are buying against an early spring demand and their stocks are none too heavy, but apparently fairly well balanced. After a definite trend can be established on new construction, it is likely the builder supply houses will begin buying against future demand.

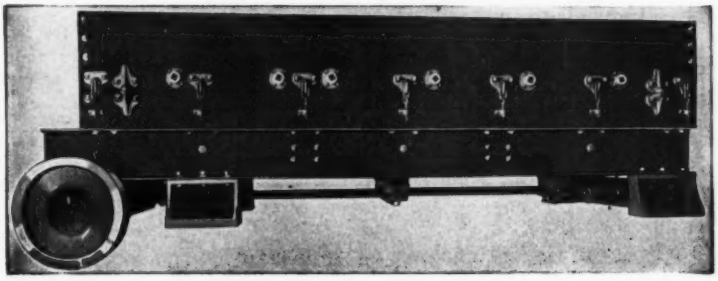
THESE 2 FEATURES
Provide the Smoothest Performance Ever Attained on any Flat Screen



1. This simple drive, only 1 eccentric and 2 roller bearings, will operate one to four screens in line. No cams, no individual eccentrics, most of the wearing parts of former construction have been eliminated.

Double rocker-arms allow rapid vibration of the diaphragms without noise or pounding. This new method of screen operation gives maximum capacity, positive action, lasting efficiency and greater flexibility. **2.**

Only on the APPLETON-WAGNER DIAPHRAGM SCREEN can you get these 2 IMPORTANT FEATURES



The Appleton-Wagner Screen folder describes fully the operation and advantages of this new flat screen. A copy will be mailed upon request.

THE APPLETON MACHINE COMPANY
APPLETON • WISCONSIN

S. D. Warren Votes Dividend

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., March 10, 1941—The S. D. Warren Company has declared a quarterly dividend of 75 cents on the common stock, payable March 27 to stockholders of record March 18.

C. W. Boyce to Address Waste Men

Charles W. Boyce, assistant chief of the Pulp and Paper Unit, Materials Branch, Production Division of the Office of Production Management, will be a speaker at a meeting of the Waste Paper Institute, a Division of the National Association of Waste Material Dealers, Inc. to be held at the Sherman Hotel, Chicago, during the Convention of the abovementioned Association.

The meeting of the Waste Paper Institute is scheduled for Tuesday, March 18 at 10 A.M. Mr. Boyce has for some months been associated with D. C. Everest in connection with the Pulp and Paper Unit to which OPM looks for guidance on Pulp and Paper problems.

PAPER TRADE JOURNAL
Title Reg. U. S. Pat. Off
Henry J. Berger
EDITOR

Vol. 112 March 13, 1941 No. 11

COMING EVENTS IN PAPER INDUSTRY

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

AMERICAN PULP AND PAPER MILL SUPERINTENDENTS ASSOCIATION, Twenty-second Annual Convention, Poland Spring House, Poland Spring, Me., June 17-19.

CORPORATION TAX CHANGES

Because the excess profits tax is severe upon some corporations changes have been recommended. The excess profits tax became effective last year and is payable March 15 1941. The modifications, sponsored by Chairman Doughton of the Ways and Means Committee and approved by the Secretary of the Treasury, are designed to better meet special conditions. The changes are calculated to make little difference with the revenue raised by the imposition of the excess profits tax upon corporate income after the regular income tax. The proposed amendment, which was passed by Congress on February 25, is Bill H. R. 3531, known as the "Excess Profits Tax Amendments of 1941."

In commenting on this amendment Godfrey N. Nelson, lawyer, tax expert and secretary of The New York Times Company, in an informative article in a recent issue of *The New York Times,* points out that, "primarily a relief measure for the removal of hardships which would result from the Excess Profits Tax Act of 1940, the proposed bill is retroactive to the beginning of 1940, except as to fiscal years starting after January 1, 1940. Although the amendments are mostly of a character intended to ameliorate the effects of various abnormalities in income, a few provisions of the excess profits tax have been rewritten . . . This piece of legislation, if adopted, will have the effect of extending the time beyond March 15, in which the corporate taxpayer may make an election as to the basis of credit that will be finally adopted."

In pointing out the choice as to the basis of relief, Mr. Godfrey goes on to say that, "With a view of avoiding the necessity of granting a general extension of time, it would appear that the double method of reporting is contemplated. This is in line with a provision under the proposed amendments granting a period of six months from the due date of filing the return in which to make application for the benefit of relief under Section 722 [Amendment, Section 722(e)]. And this would be consistent also with the new provision granting to the taxpayer six months in which to elect to charge to capital account amounts taken as deductions in the taxable years of the base period on account of expenditures for advertising or the promotion of good-will [Amendment, Section 733(e)]. Indications are that, although returns will be required to be filed by March 15, or within thirty days thereafter if an extension of time is obtained, in which case a tentative return (with installment payment) will be filed on or before March 15 will be granted in which to make application for such relief as will be obtainable under amendments of the law or rulings to be promulgated by the Commissioner of Internal Revenue."

Continuing his clear analysis, Mr. Godfrey said: "An outstanding improvement is the proposed removal of restrictions upon a corporation succeeding to the business of a partnership or proprietorship in respect to the use of the base period experience of the predecessor. By the proposed amendment earnings of the predecessor will be reflected in the base period credit of a corporation which acquired the assets of a partnership or proprietorship in a tax-free exchange. In such cases, however, the computations of income must be made as if such partnership or proprietorship were a corporation, deductions being made for corporate income taxes and for salaries. This amendment, contained in Supplement A of the proposed bill, makes mention only of the case of a corporation acquiring the properties of a partnership. The committee's report on the bill, however, includes 'sole proprietorships'.

Respecting the scope and intent of the changes, Mr. Godfrey points out that "The proposed legislation displays an administrative intent to apply yardstick limitations by which the relief provisions will be measured. The taxpayer assumes, of course, the burden of proving abnormalities in its base period experience. By way of basic limitations, however, relief will not be granted in situations brought on by: (a) High prices of material, labor, capital or any other agent of production, (b) Low selling price of the product of the taxpayer, or (c) Low physical volume of sales due to low demand for the taxpayer's product. In order to obtain relief under Section 822 the taxpayer must meet one of the following: (1) The character of its business as of January 1, 1940, must have been direct from the character of the business engaged in during one or more of the taxable years in its base period, or (2) Normal production, output, or operation in one or more of the taxable years in the base period must have been

interrupted or diminished because of events abnormal in the case of the taxpayer. Even where the taxpayer whose business has changed in character and whose normal production has been interrupted by an abnormal event, relief will be denied 'unless the excess-profits tax otherwise payable exceeds 6% of the taxpayer's normal-tax net income for the year and unless the relief afforded by this section (722) would diminish the excess profits tax otherwise payable by more than 10%.'"

In referring to the specified cases, Mr. Godfrey states that "In reference to cases falling within any one or more of the six classes of cases specifically described in Section 721, the test of whether an item is abnormal is determined by the comparative size of the amount of the item in the light of the taxpayer's experience. If the item includable in the gross income of the taxable year is in excess of 125% of the average amount of the gross income of the same class for the four previous years it will be considered abnormal . . . A new form of relief is proposed for corporations whose earnings have been on the ascendency during the base period years. This applies to corporations whose aggregate earnings for the second half of the base period shown an increase over the aggregate earnings for the first half of the period."

Dr. A. E. Boss Heads Pigment Sales

Dr. A. E. Boss has been named manager of pigment sales of the Columbia Chemical Division of the Pittsburgh Plate Glass Company.

He formerly was manager of the technical service department and he will establish headquarters in New York. He will devote his time to the further development of Calcene sales and the establishment of a new program in the interest of Silene, a calcium silicate pigment.

Dr. Boss was graduated from the University of British Columbia, received his Ph.D. degree at the University of Illinois, served as a Research Instructor at Oberlin College, Oberlin, Ohio. He was associated as research chemist on pigments at the B. F. Goodrich Company for four years. He came with Columbia in 1932 and has held the following positions: research chemist, technical sales representative, assistant manager of special products sales, and manager of technical service department.

Dr. Boss is a member of the American Chemical Society, Rubber Division. He has served as Vice Chairman, and Chairman and Councillor of the Akron Section of the American Chemical Society.

Paper Box Orders Higher

Orders booked by members of the Folding Paper Box Association during February ran 23.3 per cent ahead of January and 28.2 per cent ahead of February, 1940. While agreeing that business during the month was very good, officials pointed out that the percentages of gain were distorted somewhat by the early 1940 lull that followed the heavy ordering in the Fall of 1939.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks, 1941		Corresponding Weeks, 1940	
January 25	86.6	January 27	91.2
February 1	85.8	February 3	89.2
February 8	86.8	February 10	87.9
February 15	88.9	February 17	86.6
February 22	89.6	February 24	86.8
March 1 (Prelim.)	88.9	March 2	83.5

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July
1940	90.2	86.2	83.9	86.3	91.8	93.8	87.1
1941	84.8	89.4	...	...	...	...	...

Year	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1940	87.2	83.2	88.0	86.9	83.3	87.5
1941	...	...	...	...	...	...

COMPARATIVE YEARLY SUMMARIES

	1935	1936	1937	1938	1939	1940	1941
Year to Date...	67.7	77.2	90.1	66.4	80.0	88.4	86.8
Year Average...	70.5	81.3	80.6	72.3	84.9	87.5	...

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS†

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year Avg.
1936	62	67	67	70	69	70	69	75	78	82	80	74	72
1937	80	86	86	88	85	77	66	74	69	65	55	45	73
1938	54	60	61	57	58	56	57	66	66	70	65	59	61
1939	60	67	71	69	64	67	63	72	74	84	81	71	70
1940	71	70	69	70	76	79	72	74	72	79	77	71	73
1941	75	81	..	..	..	..	..	..	..	..	..	..	..

Week ending Jan. 25, 1941—78
Week ending Feb. 1, 1941—79
Week ending Feb. 8, 1941—79
Week ending Feb. 15, 1941—81
Week ending Feb. 22, 1941—80
Week ending Mar. 1, 1941—82

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.

St. Lawrence Operating at 64 Per Cent

[FROM OUR REGULAR CORRESPONDENT]

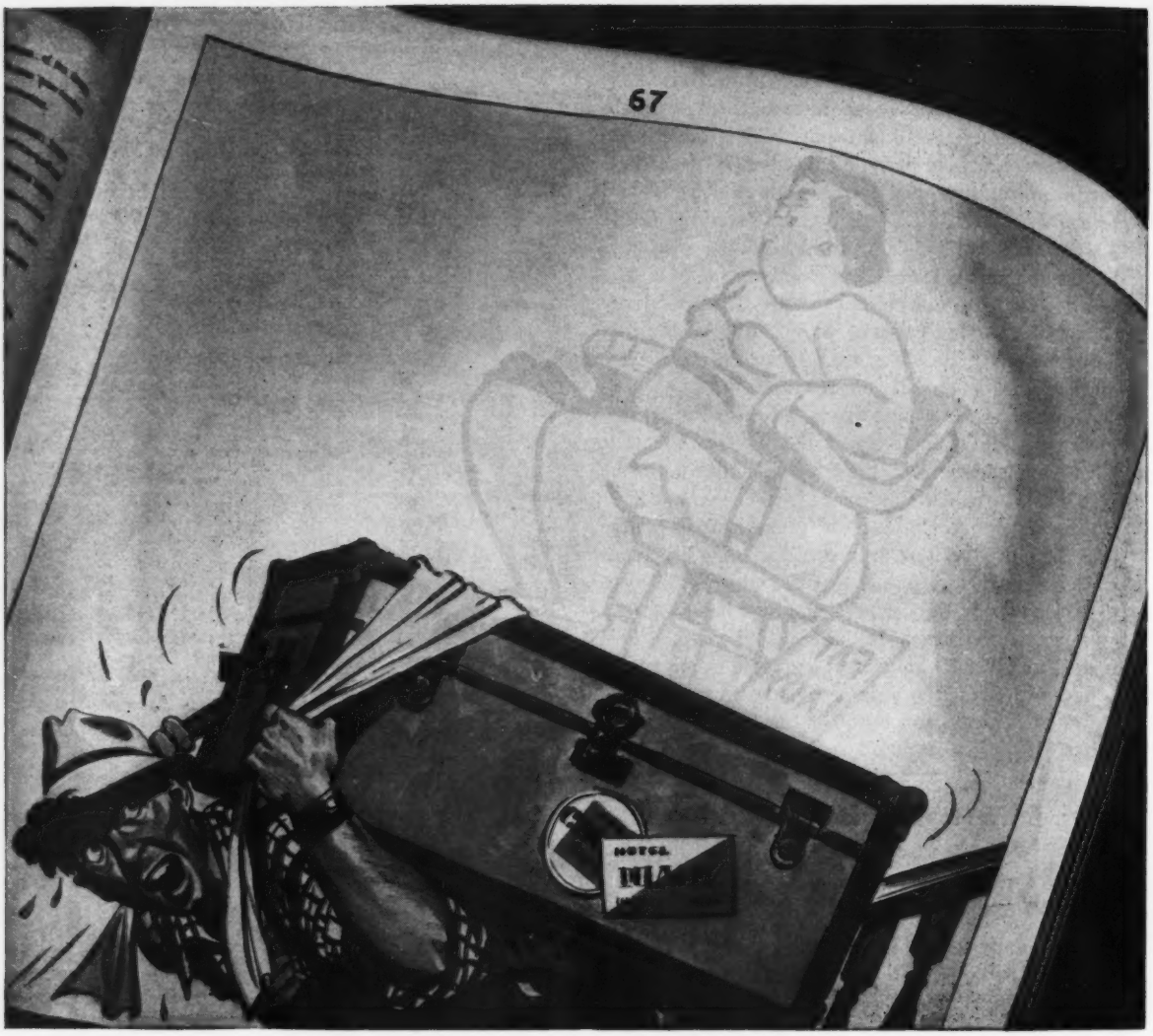
MONTREAL, Que., March 10, 1941.—At the annual meeting of the St. Lawrence Paper Mills Limited, Arthur F. White, vice-president and managing director, declined to attempt to predict the volume of business in 1941, but said what they did know was that operating costs would be somewhat higher. The company is currently operating at 64 per cent of capacity. He expressed the opinion that adherence to the policy of cooperation within the newsprint industry together with good leadership, should prevent a recurrence of the chaotic conditions which existed in the early thirties. He also said it is not unreasonable to suggest that the transition to post-war conditions may be free from the grim accomplishments which many present-day critics are predicting. The enormous additions to plant capacities which took place in the late twenties, and for which many unrelated groups were responsible, left behind a long and painful period of readjustment from which the industry is now slowly but surely emerging he said.

In answer to a question it was stated that the condition of the Hearst liabilities to the Canadian newsprint industry is slowly improving in general.

The reports were adopted and the directors re-elected.

C. D. Orchard To Be Chief Forester

C. D. Orchard was appointed acting chief forester of the province of British Columbia to carry on in the place of the late E. C. Manning, whose death in an airplane crash occurred recently. Mr. Orchard has been assistant chief forester for a number of years.



"You ain't helpin' any, sister!"

. . . GROANED THE TRUNK MOVER ON PAGE 67 TO THE FAT LADY ON PAGE 68

"Heavens!" exclaimed the fat lady, peering over her chins. "This is the first time I've ever performed on a trunk!"

". . . on a *grease-spot,* you mean!" moaned the trunk mover. "I c-can't hold out much longer!"

"You *poor* man!" clucked the fat lady. "I'd like to make things easier for you. But I'm *show-through* from the next page. Only the paper manufacturer can get rid of me!"

"What can *he* do?" wheezed the mover.

"He can use Krebs Pigments," explained the fat lady. "They make the thinnest paper opaque!"

"Will they help me hold you up?"

"Land sakes, yes!" smiled the fat lady. "Krebs pigments hold printing where it belongs . . . on *one* side of the paper! And the print stands out sharply, because the paper is *cleaner* and *whiter*!"

"I don't care about that," panted the mover. "I need some assistance!"

"And you'll get it . . . if you bring your technical pigment problems to Krebs!"

"H-hurry," gasped the mover, his legs beginning to buckle. "Tell me where to go . . ."

"To the nearest mailbox," pointed out the fat lady. "Just send them a letter!"

KREBS PIGMENT & COLOR CORP.

1007 Orange Street . . . Wilmington, Delaware

Section of the
Technical Association of the Pulp and Paper Industry

Edited by Ronald G. Macdonald, Secretary

Controlled Conditioning of Paper*

By A. E. Montgomery[1]

Abstract

The conditioning of printing papers in the paper mill has become more important as the desirability of preconditioned paper with proper moisture content has become recognized by the printing plants. Means for conditioning are discussed. The operation of the recently devised Cycle Conditioner is explained. This affords an economical means for adding any desired amount of moisture uniformly at high speed, being adaptable to use either as a separate operation or in synchronism with other operations.

Conditioning may be defined as the altering of the moisture content of paper by the addition or subtraction under control of small increments of moisture. It matters not whether water be added in the liquid form as mist or condensation, or in the gaseous form of water vapor. To be conditioning in the true sense, however, control is implied. Thus a common "sweat drier" may be used to add water to paper at the end of the drier section by passing cold water through the inside of the drier cylinder and thus causing condensation from the humid air of the machine room to form on the outside and be picked up by the paper. This could properly be called conditioning only if the moisture content of the atmosphere surrounding the sweat drier, and thus the moisture addition itself, were under control.

Need for Conditioning

In the paper mill, need for conditioning exists at a number of stages in the manufacture. As one instance conditioning may be desirable between the drier section and the machine calender stack. The addition of water to secure water finish in the calender stack cannot be called conditioning, but uniform and controlled addition of moisture at this point may serve a real purpose. At first thought it seems ridiculous to overdry and then add moisture again, but due to limitations of the drying process, it is much more difficult to secure even drying of the sheet across its width when a higher moisture content is left in the paper than when it is dried down to a low moisture content. In consequence, it sometimes seems necessary to dry the paper drier than is liked for calendering in order to get uniform moisture content, and then to add a controlled amount of moisture so that the desired moisture content may be secured in the sheet across its entire width as it enters the machine calender stack.

After the machine calender stack conditioning frequently is wanted for the reason that only a limited moisture content is allowable in the paper passing through the calender if blackening is not to occur, and frequently it may be that a higher moisture content is then desired to give the paper the demanded physical properties in its final use.

Those classes of paper which are supercalendered lose a considerable amount of moisture going through the supercalender, and hence conditioning following the supercalender is desirable.

In converting plants conditioning is highly important. In the drying of a coating having organic solvents, such for example as the drying of lacquer, a considerable dehumidification of the paper takes place unless the drying is performed in an atmosphere of controlled humidity, in which case the rate of drying of the organic solvents is not affected but the moisture content of the paper may be maintained as desired. Perhaps the most common requirement and use of conditioning in converting plants is in connection with the drying of coated paper, the importance of which is sufficient to warrant subsequent individual attention.

It is especially noteworthy that conditioned paper lends itself to superior embossing or plating, the desired finish being obtained more easily and uniformly and with less waste.

Unless or until the paper mills can supply printing plants with paper of the desired moisture content the need exists for conditioning in the printing plants.

Conditioning of Coated Paper

The first serious attempt to condition paper was made in coating mills. Twenty years or more ago partially successful attempts were made to condition coated paper. Some of these attempts failed or were only partially successful due to lack of knowledge of the fundamental requirements for conditioning. Most coated paper is dried in festoon racks, and the drying effect varies considerably between different points in the festoon. With the poorer types of drying using only steam coils or inadequate air distribution, the unevenness is very pronounced, but even with the best and most modern reflex distribution there is unavoidably a difference in the moisture content of the paper in different portions of the loop. Fortunately, the festooning arrangement allows for having a large

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Roosevelt Hotel, New York, N. Y., Feb. 17-20, 1941.

[1] Member TAPPI, Vice President and Western Manager, J. O. Ross Engineering Corp., Chicago, Ill.

amount of paper in a limited space; hence, it is usually quite practicable to have a separate cooling and conditioning tunnel at the end of the drying line in which several minutes are allowable for the conditioning process.

One of the practical lessons learned in the coating mill was the impossibility of conditioning hot paper; hence, the modern arrangement is to have a cooling section followed by the conditioner section in which carefully controlled, high-humidity air is supplied. The paper entering the conditioning chamber is preferably dried to a point where every part of the loop is at least down to the required final moisture content, so that the moisture change in the conditioner consists entirely of moisture regain. It is interesting to observe the course of the paper through the conditioner. The curl and stiffness which the paper may have as it enters disappears. It is as if the tension set up in the drying process were relaxed. The important result, however, is that the paper attains a reasonably even moisture content throughout, lies flatter in sheets, and calenders to a uniform finish more easily and with less power.

Pressroom Conditioning of Printing Paper

For accurate register of successive colors in multicolor offset printing it is important that the moisture content of the paper have a definite relation to the humidity of the atmosphere in which it is printed. Work done by the U. S. National Bureau of Standards with cooperation of the Lithographic Technical Foundation, Inc., *(1)* shows that the moisture content suffers the least change during printing if it is adjusted to approximately 0.5% above equilibrium with the atmosphere in the pressroom. This is equivalent to having a moisture content in the paper in equilibrium with a relative humidity 5% to 8% above that in the pressroom. Dimension changes are thus minimized because the rate at which the paper would tend to lose moisture to the air is approximately the same rate that it picks up moisture from the printing process.

It has been the practice in pressrooms to hang paper in small lifts so that the sheets are exposed to the air in the pressroom and hence can be brought approximately into equilibrium with that air. Frequently fans are used to shorten the time for reaching equilibrium. Some pressrooms use a conditioning machine designed for the purpose of hanging sheets in such a way that the air may be blown up between them from the bottom. By locating these machines in rooms in which the atmosphere is maintained with a humidity above that in the printing room, it is possible to condition the paper to the moisture content desired, or the machine may be arranged for recirculation with controlled moisture addition as suggested recently by Weber and Geib *(2)*.

Although major attention has been given to conditioning of papers for multicolor offset printing due to necessity, it is recognized that ink on ordinary book or newsprint papers is more receptive to paper of high moisture content, the only limitation being the handling of the paper as to curling and waving in the pressroom.

The action of paper in the pressroom is not dependent alone on having the proper moisture content, but it also depends on the previous moisture history as shown by Larocque *(3)* and others. He mentions the evidence that the practice among printers of storing paper for long periods before printing to allow for release of drying strains can be obviated, and the same effect can be obtained rapidly, if the paper is conditioned at a fairly high (85 to 95% relative humidity) humidity, and then desorption allowed to take place without tension. A permanent alteration is secured in the extension characteristics of the paper. Such a preconditioned paper is permanently less subject to troubles with curl or misregister.

Although the conditioning of paper in the pressroom undeniably has been beneficial and more economical than the waste which otherwise would have occurred, it is a fact that if the printing plants could secure paper of the desired moisture content directly from the mills it would permit lithographers and printers to cut costs considerably.

Conditioning on the Paper Machine

A Canadian patent *(4)* was issued as early as 1930 covering means for controlling the humidity of the air around the calender stack, reel, and winder of a paper machine for the purpose of producing a sheet of paper with a uniform and controlled moisture content. Thereafter considerable study was given to means for conditioning paper by means of humidified air on the paper machine but with little success. It seems unlikely that any practicable arrangement of this sort can be devised due to the difficulty of getting hot paper to absorb moisture from humid air, the short interval of time allowed, and the detriment to working conditions about the machine with any conceivable humidifying arrangement.

The application of a water spray obtained by spraying filtered water through a nozzle where it is broken up by high-pressure air into an exceedingly fine mist has met with some acceptance.

Although it cannot be considered as conditioning, mention should be made of the marked benefit secured by having adequate cooling rolls to cool the paper at once after the drier section and before it is wound or carried to subsequent operations. Hot paper gives up its moisture to dry air in the mill to a much more serious extent than will paper which is cool.

Conditioning on a Rotary Cutter

The impracticability of conditioning on the paper machine forced the consideration of conditioning as a separate operation or in synchronism with subsequent operations. Studies on the rate of moisture regain in paper *(5)* showed conclusively that the rate of regain could be made relatively large by increasing the difference between the actual moisture content of the atmosphere surrounding the paper and the moisture content which it would have in equilibrium with the paper. Considerable work was done studying the rate of moisture regain, both in the laboratory and with a pilot conditioner, and as a result such conditioners operating on this principle have been used in several mills. Essentially, this type of conditioner consists of a housing through which the paper is conveyed and apparatus for supplying air to the paper and recirculating it with thermostatic and humidity control. In some instances it was found most economical to operate this type of conditioner in synchronism with a rotary cutter or sheeter, introducing it between the backstand and the cutting knife. In other instances

the conditioner is operated as an entirely separate operation. The time allowed for the paper in the humid atmosphere varies from 1 to 5 seconds. The limit of moisture addition by this arrangement seems to be about 0.6 to 0.7%, and even this moisture addition is possible only if the paper entering the conditioner is reasonably cool. Within this limitation the conditioner is capable of effecting a real improvement in the sheet properties.

A variation of this type conditioner consists of adding one or more rolls cooled with water or refrigerant by means of which the possible moisture addition is considerably increased but with a decided loss of control of the moisture addition and a loss of paper when the speed has to be changed or the operation stopped.

It is interesting to glance briefly at English practice of conditioning paper or "maturing" as it is called there. The Hall and Kay paper maturing plant is such a device. The cost of this equipment is considerable and the space required is large. To some extent this equipment resembles the Barber type of driers used in this country for the drying of tub-sized bond papers.

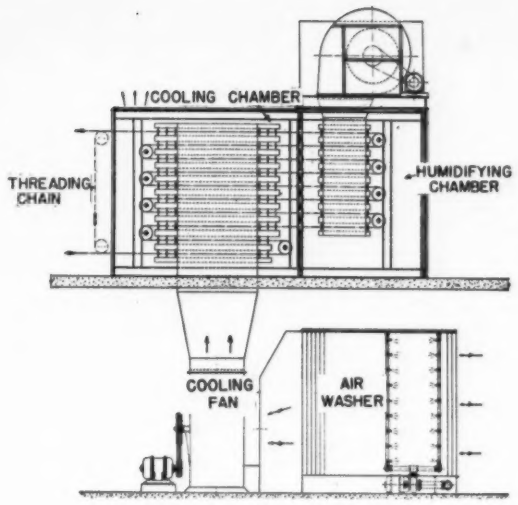


FIG. 3
Representation of Ross Cycle Conditioner.

The Cycle Conditioner

The limitations of existing conditioners and the desirability of adding larger amounts of moisture (up to 3% or more) uniformly and controllably at high speed resulted in the invention of the Cycle Conditioner which operates on a unique and new principle. There are now three of these conditioner units in regular operation and a fourth under erection so that the facts concerning its use are available. One of these has been operated as a separate operation on a wide range of papers, whereas the others are synchronized with some other operation. The first installation of the conditioner was made in a west coast mill in synchronism with and following a supercalender operating at a fixed running speed of 690 f.p.m. mainly on superfinished, heavily sized, all chemical pulp label paper (Figs. 1, 2, and 3). Up to 3% of moisture is added under these conditions without the necessity of adding any water in the form of mist, spray, or condensation on cooling rolls.

The conditioner consists essentially of two adjoining chambers with a partition between, having slots to permit the paper to pass from one chamber to the other. In one chamber which we may call the cooling chamber there is maintained an atmosphere of cool, high humidity air. In the other chamber which may be called the conditioning chamber there is maintained an atmosphere of warm, humid air under definite temperature and humidity control. As the paper passes through these chambers the conditioned air is blown uniformly on both surfaces. The paper first enters the cooling chamber where it is thoroughly and evenly cooled, then passes into the conditioning chamber, back into the cooling chamber, once more into the conditioning chamber and continues to cycle back and forth the required number of times.

When a sheet of paper is taken into a conditioning atmosphere, such for example as 95 deg. F., 90% saturation, the paper being cooler than the dew point of 94 deg. F. surface moisture flashes on to the paper in probably some fraction of a second, and by the end of a second or so, assuming that the air is supplied with good circulation or impingement, the temperature of the sheet will have been brought up very close to the dew point temperature of the air. By

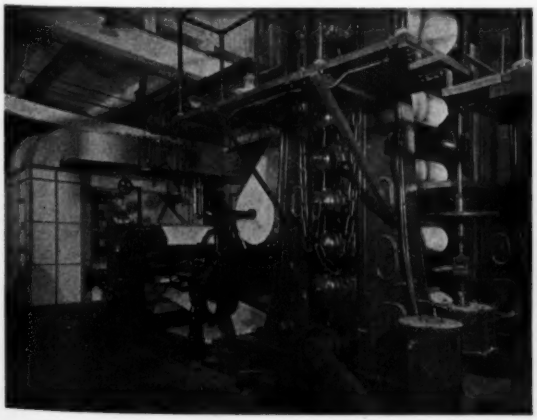


FIG. 1

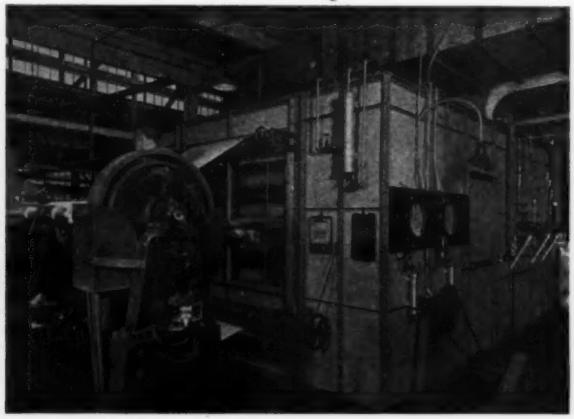


FIG. 2

Fig. 1—Ross Cycle Conditioner in Synchronism with Supercalender at Mill of Everett Pulp and Paper Company, Everett, Wash. Fig. 2—Drive Side of Cycle Conditioner, Showing Controlling and Recording Instruments.

calculation, it can be shown that the amount of moisture condensed or absorbed to raise the sheet temperature to the dew point is small, with practical operating ranges being between 0.5% and 1%, depending upon the temperature of the paper entering and the dew point temperature of the conditioning air. From that point on moisture can only be absorbed into the paper by the relatively slow process of approaching equilibrium.

In the Cycle Conditioner the paper is subjected to the conditioning atmosphere only for this brief instant and then is recooled in an atmosphere of cool, high humidity air to avoid evaporation which prepares it for reintroduction and another deposition of moisture. The number of times this has to be repeated depends upon the maximum amount of moisture desired, but ordinarily is not more than three or four times. In the final pass the paper is cooled in the cooling chamber so that it may be wound up thoroughly and evenly cooled with the required moisture content. The two atmospheres, or the differential between them, and hence the moisture addition, is under control of a recorder-controller so that a record is retained of conditions on all runs. A threading rig carries the leading end of any new run through the conditioner, and automatic means are provided for stopping the air supply instantly when the paper is stopped.

Experience with the conditioner has shown it to be capable of design for adding in a practicable manner any reasonable moisture addition and at any ordinary speed, adding this moisture uniformly and controllably. The floor space needed is reasonably small because of the short time interval required. The conditioner is readily adaptable to being operated in synchronism with a supercalender stack or a rewinder. The latest installation is being made to handle paper up to 120 inches in width and at speeds up to 1000 f.p.m.

Problems and Economics

So long as one paper user desires paper from the mill which will be in equilibrium with air at 50% relative humidity, and another user prints in a room with as low as 15% relative humidity the mill has a major problem in trying to satisfy all customers. Conditioning can be done in the paper mill more economically, especially when it can be done in the web in synchronism with some other operation. And it is good economics for the mill to convert steam at say 80 cents per ton to be sold at the price of finished paper, especially when the user is the better satisfied. It has been found in practice with the Cycle Conditioner that the added amount of water sold with the paper will offset the operating and amortization cost of conditioning. But somehow the requirements of the customer must be met by the mills, and it may be that until all users can be prevailed upon to maintain reasonably standard and proper humidities, the mills will have to furnish what might be called custom-made paper with moisture content adjusted for the requirements of the individual user. The equipment is available for that purpose.

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(1) Weber, Charles G., and Geib, Martin N. V., *Natl. Bur. Standards Research Paper* 859; *Paper Trade J.* 103, no. 12:36-40 (Sept. 17, 1936).

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(3) Larocque, G., *Pulp Paper Mag. Canada* 37, no. 4:199-209 (March, 1936); *Proc. Tech. Sect.*, Can. Pulp Paper Assoc., 1936: 83-94; discussion, 94-95.

(4) Canadian patent 299,586, issued April 22, 1930 to John S. G. Shotwell.

(5) McKee, R. H., and Shotwell, J. S. G., *Paper Trade J.* 94, no. 22:35-37 (June 2, 1932); *Tech. Assoc. Papers* 15, no. 1:273-275; discussion, 68-71 (June, 1932).

Delaware Valley TAPPI Discusses Water

The Delaware Valley Section of the Technical Association of the Pulp and Paper Industry met at the Engineers Club, Philadelphia, Pa., on Friday evening, March 7th. E. J. Albert of the Thwing-Albert Instrument Company presided as chairman.

R. G. Macdonald, Secretary of TAPPI outlined some of the recent developments in the National Association and commended Messrs. Hanson, Connor, Atwater, Poor, Revise, Bidwell and Miller and others for the excellent active part that they are taking in the national organization as committee chairmen.

Dr. Miller was especially commended for his work as chairman of the Water Committee for completing the preparation of a valuable monograph on Process Water.

A. W. Nickerson, consulting engineer, New York, N. Y., was the principal speaker and outlined the progress that has been made in the development of white water systems for cylinder and fourdrinier machines.

Those present included Edw. J. Albert, J. R. Atwater, Roger W. Beales, Roy Bixler, Maxwell Brill, S. G. Briscoe, D. D. Cameron, C. M. Connor, A. M. Cooper, O. C. Cordes, Paul Dieffenderfer, George A. Farrah, James Farrell, E. A. Georgi, J. F. Good, Philip H. Goldsmith, A. S. Hall, Wilbert H. Hannes, A. M. Hartley, H. R. Holtmeier, W. H. Johnson, Leslie Justice, Willard H. Lapp, Marcus L. Little, P. M. Loddengaard, Lester Long, M. Craig Maxwell, F. J. McAndrews, Alex McInnes, R. C. McKee, H. C. Merritt, Walter B. Morehouse, Donald H. Newcomb, Thomas O'Grady, E. N. Poor, Walter P. Quinn, S. V. Rogers, W. K. Schlotterbeck, H. M. Spurlin, R. J. Stuart, Jr., George M. Suydam, R. Temple, John N. Tuttle, G. C. Walton and A. E. Waugh.

New Recording Thermometer

The Bristol Company, Waterbury, Conn., has developed two new recording thermometers of the liquid filled type. They will be known as the Case-Compensated Class I Recording Thermometer and the Fully-Compensated Class I Recording Thermometer. Improved design and construction of the measuring elements, tubing, and bulbs in these instruments extend the field of application of the liquid filled thermometer, making it possible to take advantage of the desirable characteristics of the Class I thermometer system on a greater variety of temperature-measuring problems. The case-compensated instrument is offered in temperature ranges up to 400 deg. F. and tubing lengths up to 10 feet or longer depending on conditions surrounding the installation.

These thermometers are said to have higher sensitivity and accuracy. The improved design measuring element is considerably stronger and more powerful than previous designs. They give uniformly accurate results over a wide range of change in temperature along the tubing and in the case. The measuring systems of these thermometers are also used in the Bristol Free-Vane Air-Operated Temperature Controller.

Job Evaluation*

By R. H. Rositzke[1]

Abstract

The nature and functions of job evaluation are set forth and misconceptions regarding it removed by listing the major factors which must be present in a true job evaluation program.

Successive earlier approaches to the wage problem are reviewed and their advantages and disadvantages discussed. The best current methods are discussed, contrasting job-to-job comparison with factor-by-factor comparison; individual vs. committee procedure; and summarizing the advantages and disadvantages of each.

The factors of union relations, the organization and makeup of committees if this method is used, and the general step-by-step procedure are explained.

The six major rating factors—mentality, skill, responsibility, mental application, physical application and working conditions—are discussed fully in connection with consideration of differences of view as to the scope of evaluation objectives.

The interrelations of job definitions and specifications with promotion sequence, training programs, and other factors of industrial relations are shown. The manner of introduction of the program to the committees, the function of consultants in the program, and significant factors in the day-by-day work of evaluation follow. The extension of job evaluation to salaried jobs is briefly discussed; the manner in which evaluation results are translated into payroll policy is then taken up, and the use of community wage surveys to protect the competitive position, with the final organization for wage contract negotiations.

The problem of what to pay per hour, per week, or per month for each and every occupation in the paper industry, for every section of the U.S.A., is worthy of your best thought and study. Relatively little has yet been accomplished in this industry, for several reasons:

1. The technique for evaluating the relative worth of different jobs has only been given a proper amount of research and executive backing within the past ten years.

2. The establishment of occupational or job wage differentials has in many instances been claimed as the sole prerogative, either of business management, or of labor representatives.

It should be obvious that such assumptions are no longer tenable; it is for the industry to say whether the inevitable pooling of responsibilities will be voluntary or enforced.

3. The arguments advanced today against job evaluation are almost identical with those advanced years ago against the introduction of control laboratories and techniques. Withal there are many more valid and economic causes for the adoption of sound evaluation measures; so much so, that formerly reactionary elements are now even actively cooperating for their extension.

Many plans of job evaluation have been in evidence during the past decade. Many false impressions have been developed as to the functions that job evaluation should perform or aid. The following observations should aid in gaging the approach: What business functions should a properly established job evaluation program perform or aid? What are the essentials of a well rounded job evaluation plan? What misconceptions are commonly found as to job evaluation its acceptance and function as an industrial relations medium?

Functions Performed by Evaluation

In our work we have come in contact with many job classification, job rating, and evaluation plans. There is a tendency for some to claim, by virtue of a title given to certain efforts along this line, that they are conducting a full-fledged program. In many cases, their efforts have been rewarded with only a minor share of the benefits which should normally be obtained.

A check sheet was developed covering some 50 factors that should be evident in a properly established evaluation program. Among these the following are major requisites:

1. It must serve as a basis for establishing equitable job or occupational wage rates.
2. It has been developed so that supporting job definitions can be used as job instruction sheets for new and advancing employees.
3. It is clearly understood by both management and the rank and file of employees.
4. It is serving as the basis for presenting and interpreting the overall company wage policy to interested employees.
5. It definitely ties in the employee eligibility requirements of the job to promotion and wage increase policies.
6. It definitely indicates the position of each job in the route of promotional sequence.
7. Evaluations have all been considered on job requirements only. There should be a clear distinction between job evaluation, which only defines and rates jobs, and the rating of men on the jobs.
8. It has been so conducted that the differences between jobs can be definitely calibrated in terms such as mentality required, necessary skill, mental application, physical application, responsibility, and working conditions.
9. It serves as a basis for the measurement of differences in job requirements when making a community or industry wage survey.

The comparison of actual rates paid on a job named "machine tenders" in different mills is of but little value. In some mills a machine tender is practically a "tour boss" whereas in other plants the title carries only the responsibility of a minor straw boss. In certain mills, the job requires men capable of holding close paper or paperboard limits; in others this is not important. So the relative process requirements must be so clearly defined and calibrated that all major job specification differences can be quickly and clearly discerned.

10. Both labor and management should have the opportunity to aid in the development of the final ratings. Full play should be given to the appraisals of both workers and supervisors, governed by a definite pattern of procedure.
11. The plan adopted should directly cover the many work factors and work elements with which the workers and supervisors are familiar: the factors used should be sufficiently broad so that all jobs in an industry may be gaged by the same basic measurement elements.

Misconceptions as to Job Evaluation

A serious study of this subject will sweep aside some current misconceptions. The work is distinct and apart in principle from commonly termed "bonus or merit" systems. It has a high degree of acceptance in the ranks of *enlightened* organized labor leadership. Many leaders of organized labor have gone on public record in approval of the principles of sound job evaluation programs and procedures. It is an "industrial relations" instrument.

In certain quarters it has been considered a minor and incomprehensible medium used in some way at arriving at pay rates. This does real job evaluation a grave injustice. If it has not been tied into the

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[1] R. H. Rositzke & Associates, Management Consultants, 36 W. 44th St., New York, N. Y.

wage policy formulation activity of the company, the work has not earned nor is it worthy of the term "job evaluation."

Various Installation Procedures

It is of prime importance that the procedure to be followed in the installation of job and salary evaluation programs be given executive attention and careful preliminary studies. The following are typical examples of various approaches, with the weaknesses and strengths of each clearly defined.

A. The oldest of all types, with someone in authority rating jobs on the basis of a quick payroll appraisal, a comparison with what some other papermaker states he is paying, and a quick gathering of impressions as to which jobs represent the "Squeakiest Wheels" requiring some grease, with personal experience in many cases termed the practical background.

The only thing that can be said for this method is its quickness.

A series of notable defects become apparent over a period of time, such as:

(1) Although some ratings developed on this basis have been remarkably good, the percentage and uniformity of quality is low.
(2) No matter how fair the individual, the invariable reaction is that favoritism has been present in judging some occupations. On the other hand, this type of rater has no defined basis for supporting the sincerity and fairness of any of his determinations.
(3) Unions attempting to set wage scales without the application of well established and generally accepted job evaluation practices, leave themselves open to severe criticism regarding their wage considerations and recommendations.
(4) Under this type of rating, either by the individual executive or through unsupported union demands, sooner or later you run out of compromise measures. At such times, many apparently sound industrial relations situations go to pieces.
(5) Where this type of rating is used in companies having more than one mill, local managers are frequently hamstrung in granting nominal wage increases. Many wage malpractices have resulted from attempts to short circuit or circumvent impractical procedures based on only generalized judgment, controlled by day to day rate whims.

B. One of the first semiscientific approaches was largely introduced many years ago by the management engineering profession. It consisted of having an experienced engineer examine various jobs, get a few opinions here and there, use some sort of measurement scale and base on this setup an evaluation of a sort.

(1) This method did attempt an organized evaluation. In this respect it was a decided advance.
(2) It was only attempted as a secondary step to the installation of wage incentives or the quick and temporary estoppel of turnover —to avert possible criticism.
(3) It was still subject to the criticism of labor and management that it was only an enlightened guess. It did not seriously consider nor bring pooled judgment into play nor did it produce the many by-products which are increasingly necessary in a sound industrial relations program.
(4) In some cases it was erroneously associated with bonus or incentives in cases where such measures met with failure, resentment, or actual resistance.

Although there were a few variations in this pattern, nothing much happened to alter it until about eight to ten years ago. Intensified sociological and union considerations began sweeping the world and in due time their effect became quite evident in wage administration thinking.

The new-born approaches all have one common characteristic. They uniformly accept the need for and desirability of using pooled judgment in the establishment of a proper job evaluation and wage administration program.

C. The first approach in the newer order is a modification of earlier management engineering procedures. It consists of first zoning all jobs into departmental or divisional units. The job analyst then consults with the foreman of the unit and the labor representative or in the absence of union representation, a worker well versed in the departmental jobs or occupations. This procedure is followed through department after department. Its proponents declare that it provides the worker-management pooling of judgment which is considered today to be of primary importance.

Two primary types of evaluation plan are used in this approach, either the old job-to-job grade comparison methods now considered obsolete and inadequate by many of our largest American industrialists, or the newer principle of factor-by-factor comparison of job content as to requisite mentality, skill, physical and mental application, responsibility, and working conditions.

This approach has certain advantages; and certain marked disadvantages.

(1) It is easier to sell this procedure to the type of management which is opposed to committee type of action.
(2) It takes less of the supervisors' and worker representatives' time than is involved in full committee work which encompasses all jobs of a given type in one series of sessions.
(3) However, it is necessary to average out the opinion and judgments of department heads and worker representatives so that the jobs of each and every activity will be properly proportional to, and representative of all activities. Under this procedure such interdepartmental or divisional leveling must be completed by the job analyst in charge of the installation. Unless there is some closing type of joint action, the leveling becomes a one-man job subject to a great deal of questioning and possible suspicion.
(4) The program loses one of its greatest potential psychological values. Department heads and workers do not clearly get the picture of how intimately their activities are related to all other company producing activities. The loss of this value is particularly great in companies that produce their own paperboard or paper and convert the basic material into finished or semi-finished product.
(5) In cases where union representation is in evidence, this procedure may cause an unwarranted suspicion by the union that the company is trying to "pull a fast one."

D. This approach is aimed at getting the greatest degree of pooled judgment.

(1) The job analyst, after some ranking executive has formally announced to both the company supervisors and worker representatives, that the company will enter a job evaluation program, gives a brief introduction of the subject and explains how he expects to proceed, to both the supervisory force and workers' representatives.
(2) The job analysts work with individual supervisors and worker representatives in each department to establish all preliminary job descriptions and specifications. Such preliminary job descriptions may, if the intelligence level is high enough, be writen up by the workers and edited by the supervisors, subject to the counsel and observations of the job analysts.
(3) A schedule is established by the job analysts for controlling the turn in of preliminary specifications, the editing or return for improvement of the preliminary specifications, the writing of the final job definitions and the establishment of preliminary engineered job-by-job evaluations.
(4) The job analysts then prepare data for the factor-by-factor comparisons of the committee or committees.
(5) The committees can be set up on either of two basic plans, namely: (a) that one committee be established composed of worker representatives and the supervisory force, or (b) that two committees be established; one of worker representatives, the other of supervisors. After these committees have arrived at independent evaluations, joint committee meetings are held to iron out all major rating differences.

In both cases the industrial relations or personnel manager should be on the committee, preferably in the capacity of chairman. The job analyst should be in all the meetings as technical counsel. In small companies or units, the functions of job analyst and personnel manager are frequently combined in one individual.

Variations of these basic approaches, dependent upon the situation, are employed. Each and every approach has certain strengths and simultaneously certain weaknesses. In each case a careful preliminary analysis of all influences will result in a course which will give the individual company or unit the procedure which will give it the greatest advantages.

Rating Plans and Factors

There are almost as many rating plans as companies employing them and authors giving their views on the subject. All who have engaged in, or have followed the subject actively, agree that job evaluation is not an exact science. However, there seems to be a rather general acceptance of six factors as measurement bases. They are: (1) mentality required on the job, (2) skill necessary, (3) responsibility involved, (4) mental application, (5) physical application, and (6) working conditions.

The basic disagreements can in the main be classified into two schools of thought.

The first states that the only purpose of a job evaluation program is to set up a basis for establishing more equitable occupational base-rate differentials. They are in rather general agreement that such plans should be sufficiently supported by certain key job definitions as to assure or make more definite the comparison of wage rates with other companies or comparable producing units.

The modern school which considers fully the requirements insisted upon by the first, but adds that a job evaluation program must be so devised that all major industrial relations byproducts can be considered simultaneously.

In both schools of application, two basic types of rating are used. (1) An alphabetic plan or straight over-all job grading method. This consists of indexing jobs based on certain key definitions, as for instance; machinist 1st class, machinist 2nd class, machinist 3rd class. The obvious weakness in such job-grading methods is the lack of supporting rate detail and the difficulty of determining what is a top grade of job in any occupational classification. (2) Numerical weighting for each factor. The degree of job requirement of each factor is the basis for assignment of a numerical rating to the job. Most users of this method employ the job factor by factor method of establishing the relative worth of jobs.

It is interesting to note, as evidenced by the paper "Sound Bases for Salary Standardization" published by the American Management Association, *Office Management Series* 92, that the evaluation representatives of E. I. du Pont de Nemours & Company, Inc., The Atlantic Refining Company, the General Electric Company, and the Eastman Kodak Company are uniformly in accord on two basic considerations: (a) they all sponsor numerical ratings; and (b) they are advocates of the factor by factor method.

On occasion job evaluation has been applied without numerical ratings, but numerical ratings are used in nine out of ten installations. The advantages of numerical evaluation exceed by far the disadvantages. Grading procedures are always conducted on the factor to factor basis in joint work with labor and the supervisory force. However, as a check on the analysts' appraisal judgment and also to probe the sources of greatest potential differences of opinion, the job analyst is required to make a preliminary job by job rating.

The scale of numerical weightings (Table I), which are used to evaluate the relative job difficulties, is shown on the basis of one hourly rated job using the maximum allowance on each and every factor. We have never encountered such a job in our practice and therefore it represents a purely theoretical maximum.

Table I.—HOURLY RATED JOB ALLOWANCE SCALE

1. Mentality	250
2. Skill	664
3. Mental application	134
4. Physical application	53
5. Responsibility	179
6. Working conditions	320
	1,600
Company policy allowance	?

Definitions of Major Evaluation Factors

Mentality is the prerequisite mental development or intelligence necessary to factory training for the development of normal skill and knowledge to do the job. It may also be expressed as the educational requirements (mental age) required for the job and the degree to which the mind plays a part in the satisfactory performance on a job.

Skill is defined as "knowledge with the ability to apply it." While a wide variety of elemental considerations are involved, the degree of skill necessary should be reasonably proportionate to the "length of training" and experience necessary for an individual of given mentality to acquire the desired qualifications.

Responsibility or accountability for results necessitates a high degree of mental alertness and coordination of mind and action where the chance of error is great and its probable cost would be high. The degree of responsibility involved on a given job can be evaluated on the basis of relative hazard or chance of error involved and its probable cost.

Mental application is defined as the degree and continuity of applied mental effort called for on the job. Comparisons are made on the basis of continuity of mental concentration and conscious detailed mental direction of physical effort.

Physical application is defined as the degree and continuity of applied physical effort called for on the job. Comparisons are made on the basis of the physical exertion called for on the job and the degree of continuity of such effort.

Working conditions refers to conditions surrounding a job which make it undesirable from the point of view of the type of operator required. It should in most cases be a minor factor except in such occupations as lacquer making, sand blasting in a booth, arc welding, etc.

It will be noted that no point value has been assigned to "basic company policy allowance." Basic policy allowance is the number of points equivalent to the hourly rate which the company would be willing to pay for a theoretical job having a zero rating on every other factor. This makes it slightly different from what is usually referred to as the "common labor rate," since every job in the plant rates some number of points on other factors. Basic policy points cannot be set finally and accurately until final point ratings for all jobs are settled and agreed upon.

At that time, by matching actual payroll rates again the job point ratings, by statictical methods, the exact basis policy allowance can be determined. It will then become a permanent number of points which must be added to every job rating. Manipulation of basic policy points has the effect of changing the spread between low-paid and high-paid jobs. For example, if it ever became necessary to raise all low-paid job rates and leave the higher job rates the same, it would not be necessary to discard the job evaluation plan, or even to revise the job ratings. All that would be necessary is to increase the basic policy allowance. Lowering this allowance has the effect of increasing the spread between low-paid and high-paid jobs.

Detailed Divisions of the Major Factors

Mentality: This is calibrated in terms of prerequisite schooling. It does not imply that an employee will not be eligible for a job if he does not possess such schooling. It does however mean that a job requires a learning comparable to a certain amount of schooling. This in no way hinders or influences

the progress of self-taught or self-made employees. Used in this sense it aids ambitious employees to select the type of home or other study which will improve their eligibility.

Skill: The measurement of this job characteristic or requirement is broken down into three considerations: (1) The length of training required for an average employee to reach acceptable proficiency. (2) The variety and complexity of the operations or activities of the job. (3) The dexterity and manual skill necessary to perform the job satisfactorily.

Mental application: This factor is gaged on the basis of concentration of attention (tension), intensity, and frequency of thought necessary.

Physical application gages fatigue, the laboriousness of the job, and its posture requirements.

Responsibility is judged by the possible and probable product damage value the job is responsible for, the equipment damage possible or probable, the tool and fixture damage, the responsibility for the safety of other employees.

Working conditions requirements of the job are gaged on the basis of work location, (is it inside, outside, etc.) is the work in a damp, wet, or very wet location, the working temperature, the noise involved, the eyestrain, physical contact with oil, the accident hazard, the health hazard due to dust or fumes.

Basic company policy allowance is established in consideration of such factors as the company common labor wage policy, union contracts, the prevailing wage in the community and the industry, the influences, if any, of the Walsh-Healey and Vinson Acts, the local cost of living indexes, and a number of other minor considerations.

A Measurement Scale

Figure 1 shows the rating scale for the measurement of skill based on length of training. It will be remembered that the skill requirements of a job are rated in three basic subfactors of which "length of training required" is the major.

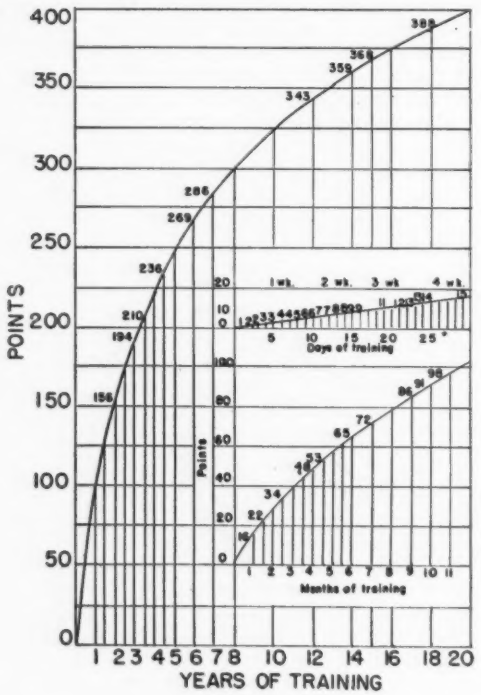


FIG. 1
Length of Training—Skill.

JOB RATING SHEET

Occupation: Paper Machine Tender — Job No:
Department: Paper Mill
Division: Mill
Working hours and overtime:

Comes under wage and hour laws – Federal: Yes — State: Yes
Reports to: Paper Mill Superintendent
Physical requirements: Must pass Physical Examination of this company. Must be agile and alert.

Age limits:
Promotion from: Paper Machine Back Tender
Promotion to: Night Superintendent

GROUP	FACTOR	CLASSIFICATION	RATING	Group Rating
Mentality	Scholastic foundation	High School Graduate	150	
Skill	Length of training	Nine years	311	150
	Variety and complexity of operations	Many - very complex	130	
	Tool investment	$10.00	2	
	Dexterity and manual skill	Occasionally great	75	
Responsibility	Product damage possible	$10,000.00	44	518
	Product damage probable	Probable but controllable	18	
	Equipment damage possible	$850.00 (All Belts)	19	
	Equipment damage probable	Possible but controllable	11	
	Tool and fixture damage possible	$10.00	2	
	Tool and fixture damage probable	None	0	
	Safety of other employees	Slight	3	
	Probability of accident	Improbable	8	
Mental Application	Intensity and frequency of thought	Considerable - Almost continual	60	104
Physical Application	Concentration of attention	Considerable - Frequent	10	60
	Posture	Sometimes unnatural	10	
	Laboriousness	Fairly laborious	12	
Working Conditions	Work location	Inside	0	32
	Water	Wet	12	
	Heat	Sometimes very hot	12	
	Noise	Distracting	7	
	Eyestrain	None	0	
	Oil	Slight	4	
	Accident hazard	Considerable	27	
	Health hazard	No specific hazard	0	
Basic Policy Allowance				63 / 928
Total Rating				

FIG. 2

The evaluation credit for this factor is based on the length of training required for an average man of normal intelligence to attain acceptable proficiency. Once again it should be pointed out that this determination is relative rather than positive. Although the standard for a "machine tender" is 9 years of experience as shown in Fig. 3, some employees will be able to make the grade in 5 years whereas others will not be capable of complying with the job specification in less than 11 years, if ever.

In setting up standards, the experience of the company derived through pooling of the supervisory and workers' experience and judgment supported by broader experiences of the industry where available, are brought into full play.

For consistency in explaining this case treatment, a rating covering a "paper-machine tender" in one mill is shown. It may happen, that you will wish to compare this with a similarly titled job in your own activities. If so, the following should be kept in mind:

1. All ratings are relative to the actual job requirements of a given job in a given mill.
2. Before any conclusions can be drawn, it is necessary to carefully study the job specification.
3. Your own job specification should then be compared with the specimen shown as Fig. 3. Yours may be an easier or a more difficult specification.

In Fig. 2, under the group rating caption Skill, "length of training" factor, 9 years training is shown as the basis for rating classification and 311 points are allowed. This can be checked in Fig. 1, Length of Training. A coordination of 9 years of training with the point scale, indicates 311 allowable points.

No rating plan can be better than the basic job definitions. The definition in this paper covering a

machine tender is the result of a preliminary job specification and several editings and/or approvals. It had to pass the committee action of both the worker representatives and the supervisory force and be acceptable to and accepted by both. The original specifications were more than five times as long.

ELIGIBILITY REQUIREMENTS FOR JOB

Formal education: High School Graduate

Special courses: Technical control of Paper making, Paper Making.

Special knowledge and training: Must either have had four years of operation as a Paper Machine Back Tender, or at least a year of satisfactory operation as a Paper Machine Tender in a comparable Board Mill. Plus 2 years as Winderman, and 2 years as Finisher.

Normal time to acquire training: Nine Years.

REQUIREMENTS TO REACH ACCEPTABLE PROFICIENCY

Special courses:

Special knowledge and training to be acquired while learning: Maintain an acceptable level of production of good Board, service the equipment in such a manner as to conserve it and reduce repair and replacement expense, have a sound working knowledge of the making of good Board and of customary Paper mill tests, and be able to substitute for the night Paper Mill Superintendent.

Normal time to reach acceptable proficiency: One year.

ELIGIBILITY REQUIREMENTS FOR PROMOTION

Special courses: Supervision, cost control, advanced paper making.

Special knowledge and training to be acquired on job: Learn the furnishes, beating schedules required for each grade of paper. Learn the substitutions which can be made in the general furnishes or schedules in order to get the same result. Learn the general plan for handling finished rolls and storing same. Know the usual causes of down time and low production and have ideas as to how the loses could be decreased. Know how to handle help so as to get efficient work from them.

Item	ROUTINE DUTIES AND RESPONSIBILITIES	Hours Per Week
	General	
	Supervise and control the operation of the Wet End of a Three-System Board Machine having eight Cylinders and making various grades of Board ranging in Caliper from .0125 to .064, and up to 91 inches trimmed board.	
	Use one, two or three Systems, as necessary, in the making of a solid sheet, a single-lined sheet or a double-lined sheet with identical liners, or a double-lined sheet with different liners.	
	Control the operation of the following auxilliary equipment: 3 Jordans, for the final cutting of fibres to the proper length. 3 Machine Chests, that serve as reservoirs for the stock from the three Jordans and in which the stock is kept in circulation until pumped out. 1 Machine Regulative Box having three parellel lanes, one for each system, and provided with eight gates for each system which permit passing stock from any or all of the eight cylinder vat water cycling systems. 8 Screens which receive the diluted stock from their respective cylinder vat water cycling systems and screen the pulp. 8 Mixing Boxes for further dilution and agitation of the screened pulp, from which the diluted screened pulp is run into one of the eight machine cylinder vats.	
1.	To control fiber length by conferring with the Beater Boss and by regulating the settings on all Jordans.	
2.	Regulate the flow of stock by adjusting the Agiflow Pumps at the Machine chests.	
3.	Regulate the gates, and the movable dam on the overflows, of the Regulating Box to control the weight of the sheet and to comply with the speed of the machine.	
4.	Keep the eight Screens clean by periodic raking out of any dirt and unscreened pulp.	
5.	Control the formation of the sheet, in part, by adjusting the suction valves in the eight machine Cyclinder Vats, by regulating the speed of the cycling water.	
6.	Adjust the weights on all Suction, Extractor and other Press Rolls.	
7.	Keep the sheet level.	
8.	Regulate the degree of tension between the draws of the 1st, 2nd and 3rd Brass Presses, and regulate the speed of the helper meters.	
9.	Watch the condition of the felts, and service the felt guides, felt conditioners and doctor blades.	
10.	Keep all shower pipes clean.	
11.	Study the results of tests, and use them as guides in operating.	
12.	Coordinate the operation of the Wet End with that of the Beater Room and that of the Dry End.	
13.	Supervise the work of all Wet End Hands.	
14.	Conform to the requirements of the Hygiene Program in so far as they are applicable.	

Item	IRREGULAR DUTIES AND RESPONSIBILITIES	Hours Per Week
1.	Under orders of the Superintendent, take charge of the weekly repair period. In this period, make all necessary wash-ups and repairs, change felts, set deckles on cylinders, replace cylinders that need wire changes, remove rolls that are to be repaired or ground, and take all possible steps to avoid a shutdown in the next running period.	
2.	On start-ups, or after breaks, help to get the sheet across the machine.	

FIG. 3

It is always advisable to have a definite check sheet for the adequacy of the definitions. We check each and every definition for 15 qualities. The following are among the major determinants:

1. Are definitions worded so that the job contents are sufficiently comprehensive to describe all phases of each job reviewed?
2. Are they written so that the definitions can be used as definite and clear instructions to new or advancing employees?
3. Are the jobs described so clearly that an experienced evaluator could appraise the jobs accurately without actually seeing the work performed?

Eligibility Requirements for Job

At this point it seems advisable to define the various captions shown on Fig. 3.

The first item is "formal education." This is used as a measuring stick for the grade of mentality required on the job. It should be noted that these data were not requested of the foremen. It was not believed that a foreman was qualified to state the educational requirements of jobs. On the other hand, by careful study of the specification sheet, it was possible to gage the educational requirement with considerable accuracy.

Sometimes it is desirable to specify some special course or courses, as a part of the job eligibility requirements. The space for this is provided on the form. Any peculiar experience, special skill, or training which may be required for the job is written in the next space provided.

Finally, the normal learning time to acquire the basic training necessary to start on the job is posted from the specification sheet.

Requirements to Reach Acceptable Proficiency

Any additional night school, correspondence, or trade school courses that may be required, in addition to those required for actual eligibility, are listed. Any special training or knowledge to be acquired while learning the job is also set down.

The normal amount of time required to attain acceptable proficiency on the job is then stated. The sum of the "normal time to acquire training," plus "normal time to reach acceptable proficiency" is used in gaging "length of training" in the ultimate rating.

Eligibility Requirements for Promotion

As in the case of "promotion from" and "promotion to," this information is part of the promotion sequence and training program, and the information should be worked up and developed at the same time.

Routine Duties and Responsibilities

This is the section of the rating sheet wherein the actual job content is set down in writing. The first part, under the heading "general," gives an over-all picture of the duties and responsibilities involved and a brief description of the machine or other equipment used.

The second part of the writeup is a detailed amplification of the over-all description. The duties and responsibilities are broken down, itemized, and numbered. Where the information was pertinent, and available, the hours per week spent on each particular detail was also given.

Irregular Duties and Responsibilities

Under this heading is listed duties and responsibilities which occur infrequently or at irregular intervals.

Engineered Rating of the Job

By the time the job and the job specification sheet have been studied, and the job description written up,

the analyst has a definite picture of what is involved in the job. The picture is sharply focussed by the fact that most of the operations have been observed first hand by the analysts themselves.

With this picture in mind, and with the rating charts, the analyst can obtain an "engineered" rating of the job. It must be emphasized that an inexperienced analyst would find his ratings to be considerably off on such factors as "dexterity and manual skill," and "intensity and frequency of thought." On such factors as these, the trained analyst draws on a variety of past experience and is able to fit the job in at its proper level because he can match it to a mental framework of other jobs.

Introduction of Subject to Committees

What is Job Evaluation: It is *not* an evaluation or study of any employee or employees. It is a pure analysis of job requirements only. It is just as easy to evaluate a dormant or a theoretical job as it is to evaluate one on which an operator is actually working. Job evaluation is a method whereby any job can be broken up into various elements and widely different jobs compared on the basis of their fundamental requirements.

Why have Job Evaluation: The obvious reply is —why *not* have it?

The sales organization is supposed to have detailed knowledge of sales territories, markets, and probable sales volume. The technical groups are supposed to know the physical and chemical specifications and requirements of the various products.

It is absolutely essential today that the industrial relations division have a sound knowledge of the mill jobs and their relative values. It is important that the workers be fully acquainted with the factors underlying a sound wage structure.

Function of Consultants: The work of the consultant is educational and largely supplementary to the normal functioning of an organization. It is desirable for a company to occasionally call in specialists to speed up such work, get the values of broad experience and relieve the company of peak "executive time" requirements.

Review of the company's performance from the detached viewpoint of an experienced consultant, on a basis similar to the impartial external audit of the company's books, has many times proved its value.

Reviewing Committees

The function and purpose of the reviewing committees is to rate all jobs by the factor to factor method. A company can get the greatest benefit out of the pooled judgment of the workers and the supervisory force.

It has a decided psychological value; there is no more effective way of making a new idea stick than by giving the entire organization a significant part in its molding.

Job evaluation, to be a truly effective management

TABLE II.—COMPARISONS OF EVALUATIONS

Job	Factor						
	*M	S	R	M.A.	P.A.	W.C.	Total
Paper Mill Jobs							
Machine tender	150	518	105	60	32	63	928
Machine back tender	150	398	94	40	32	57	771
Spare hand	150	432	26	14	44	65	731
Beater boss	133	308	89	40	42	45	657
Machine third hand (winderman)	115	261	63	34	29	27	529
Extra hand	84	307	16	11	37	69	524
Paperboard tester	150	284	5	28	11	21	499
Machine finisher	84	183	24	30	48	40	409
Shipping leader	84	145	68	28	47	34	406
Beater room size man	84	78	89	14	12	27	304
Shipping labor	25	57	63	7	47	29	238
Beater man	34	21	62	28	44	39	228
General yard labor	25	12	18	2	49	73	179
Machine fourth hand (broke handler)	25	48	0	4	39	47	163
Night watchman	57	22	4	14	13	33	143
Laboratory janitor	84	26	4	4	13	5	136
Mill janitor	34	17	3	4	13	13	84
Pulp Mill Jobs							
Working tour foreman	150	470	85	45	31	44	825
Mechanic	133	469	56	42	34	54	788
Utility man	99	246	34	28	28	52	487
Ass't. working tour foreman	84	213	50	12	31	28	418
Pulpwood sawyer	84	108	34	40	34	47	367
Pulpwood grinder	25	87	34	28	31	34	239
Wet machine operator	34	107	17	40	26	13	237
Pulp weighman	84	65	4	28	23	17	221
Wood yard hand	34	14	20	8	66	68	210
Wood piler for grinders	25	18	17	8	69	36	173
Hand trucking—groundwood laps	25	13	8	1	33	17	97
Maintenance & Service Jobs							
Electrician	150	518	63	42	26	60	859
Mill machinist	133	517	55	42	38	51	836
Carpenter	133	493	66	42	32	45	811
Plumber and steamfitter	133	470	49	42	38	61	793
Boiler fireman	84	310	255	40	13	25	727
Grinderman	115	460	52	42	23	22	714
Bricklayer	133	433	21	42	32	37	698
Tinsmith	115	412	25	60	21	13	646
Crane and locomotive operator	84	261	87	40	40	43	555
Electrician's helper	150	214	33	28	21	33	479
Plumber and steamfitter's helper	133	156	31	28	37	61	446
Boss painter	84	209	34	28	28	45	428
Truck driver	84	122	80	42	44	30	402
Oiler	84	158	48	28	26	58	402
Trackman	84	168	29	24	29	56	390
Apprentice machinist	115	99	22	14	18	17	285
Pneumatic hammer operator	25	29	20	20	63	102	259
Boiler fireman's helper	84	62	40	28	18	25	257
Coal crusher operator	57	30	1	18	23	45	174
Air compressor operator	25	47	24	12	20	44	172
Concrete mixer operator	25	29	25	28	21	40	168
Painter	25	39	26	12	28	37	167
Truck helper	25	9	42	4	24	33	137

* Index to Factors: M = Mentality. S = Skill. R = Responsibility. M.A. = Mental Application. P.A. = Physical Application. W.C. = Working Conditions.

tool, must be sold not only to management but to the line supervisors and the rank and file.

Joint Committee Meetings

Where two committees are established for reviewing definitions and making evaluations, it is necessary to reconcile all major rating differences of opinion. The job analysts prepare data for the joint committee review, arranged to expedite final discussions, the settlement of differences and posting of final reconciliations. This, it will be remembered is a threefold reconciliation of the job analysts job-by-job engineered rating with the factor-by-factor appraisals made independently by the workers and supervisors.

Upon completion of the joint committee work, all job evaluation sheets can be completed. The reconciled ratings are transferred as official. It is frequently desirable to set up the final master sheets on a reproducing ink medium so that all interested and responsible parties can obtain copies. It is desirable to maintain agenda of all meetings for permanent records.

Comparison of all Jobs

The final comparison of evaluations is usually presented in one of two or both forms of presentation. (a) A tabular summary which shows the relative total ratings given to all jobs, the detail shown for the 6 major constituent rating factors. (b) A graphic factor-by-factor comparison of all evaluated jobs, arranged in order of overall evaluated rating importance.

Table II shows a comparison of evaluated jobs, divided for pulp and paper mill activities and the jobs arranged in order of evaluated importance.

It is well to remember that all such ratings must be considered relative to the operating requirements, the equipment setup etc. of each and every mill. It is not offered, in any sense as a yardstick for other mills but rather to show a phase of job evaluation technique.

An analysis of the tabular arrangement will reveal that "basic policy allowance" points have not been added to the "difficulty points." Such policy allowances are added only after all determinations have been completed and a policy has been agreed upon.

It should also be noted that in cases where quick results must be obtained in order to meet a specified wage negotiation, the tabular comparison is presented to worker representatives before they have entered the evaluation procedures. In such emergencies, the worker evaluations are completed after, rather than before, the development of the complete evaluations.

Graphic Comparison of Evaluations

This paper is devoted primarily to the installation of job evaluation in hourly rated occupations. A sound program, however, carries this work right through salaried jobs. A comparison of jobs coming into the mill managerial classifications is therefore shown in Fig. 4. It illustrates one method of graphically presenting jobs on an evaluated basis. The method is sound in making comparisons of either hourly rated jobs or salaried positions. It indicates how salaried jobs require much more thorough evaluations because of increased responsibilities.

A correlation between the evaluation of jobs in two different types of activity such as a print shop and paper mill is shown, which in this case were interrelated in the manufacture of the company's finished

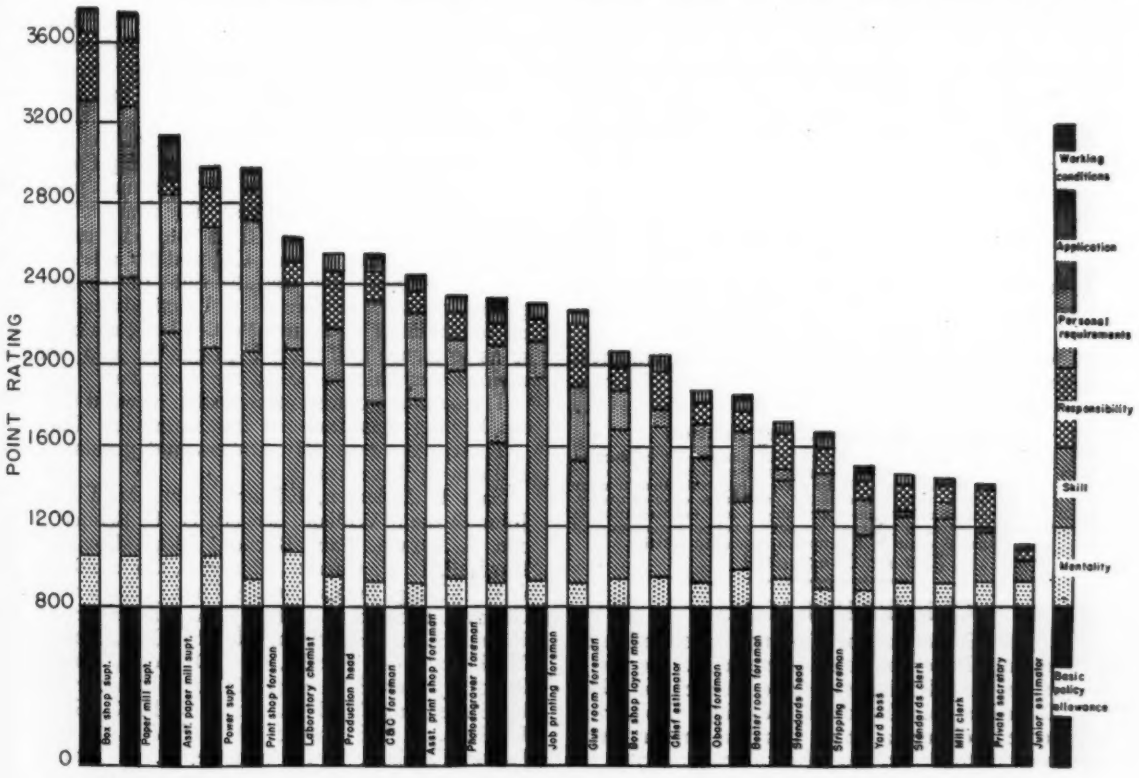


Fig. 4
Comparative Ratings of Paper Mill and Printing Plant Occupations.

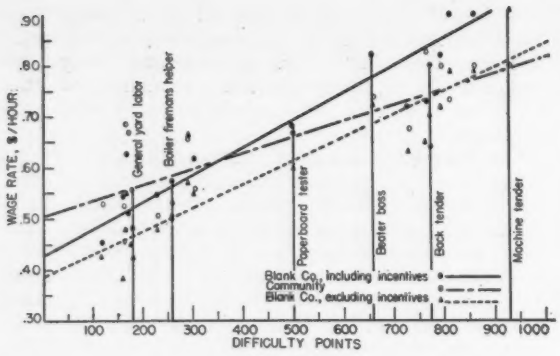


FIG. 5

Study of Wage Rates of Blank Company Compared with Community Rates.

product. It must be said again that this example only relates to one particular company. Other examples show where the paper mill superintendent's job carries more responsibility than that of the print shop. Only a direct appraisal can crystallize the proper individual company relationships.

Conversion of Evaluations into Money

One of the major objectives of job evaluation is an equitable basis for distributing the payroll. It is necessary at some stage in the program to compare the evaluations converted into money with the actual distribution of pay as indicated by an audit of the payroll. This comparison can become highly involved if a great many averages of actual payroll weighted for hours of work, be resorted to. In routine work we use two different types of "least squares" calculation methods dependent upon the variety of jobs evaluated and the number of persons employed.

The first distribution of the payroll using evaluations as a basis, employing the least squares method serves several purposes: (1) It shows the relative hourly rate values of all jobs if the existing payroll were to be equitably redistributed on the basis of the existent total company wage concepts. (2) It will indicate the deviations, if any in the company wage trend line from normal. (3) It will clearly show the jobs that are underpaid and those appearing overpaid.

It may be found that the entire wage trend line of a company is abnormal. In such cases, executive decision, major in character, must be sought.

A wage trend line developed as a hypothetical example is shown in Fig. 5, included under the caption "wage surveys."

Summary of Concluding Section

The concluding section of this article will discuss the conduct of surveys made for the purpose of comparing wage scales outside the company, and will indicate some of the uses of job evaluation in wage administration. These uses include: the prevention of controversy, as well as adjustment of disputes concerning rates; determination of the qualifications for each job, and sound promotion sequences; all of which have special value in a period of expanding activity.

(To Be Concluded)

Ohio TAPPI Meets

The Ohio Section of the Technical Association of the Pulp and Paper Industry assembled at the Hotel Manchester in Middletown, Ohio, March 6, 1941, with Chairman John Burdsall, presiding. Following an excellent dinner a short business meeting was held in order to elect officers for the coming year.

In the absence of Secretary Ted Chemerys, the chairman appointed C. D. Roess as acting secretary for this meeting. Chairman Burdsall asked for the report of the Nominating Committee, consisting of C. D. Roess of The Wrenn Paper Co., William Beckett of Beckett Paper Co., and K. P. Geohegan of Aetna Paper Co., the first named being chairman. The report of the Nominating Committee was read by Carl Roess, and presented the following nominees for office for the Ohio Section of TAPPI:

Chairman, Harry Fisher, Gardner Richardson Co., Lockland; First Vice Chairman, Valentine Friederich, Beckett Paper Company, Hamilton; Second Vice Chairman, H. H. Harrison, Crystal Tissue Company, Middletown; Secretary-Treasurer, D. S. Brown, Gardner Richardson Company, Middletown; Executive Committeemen: G. H. Harvey, Gardner Richardson Company, Middletown; O. P. Gephart, Miamisburg Paper Company, Miamisburg; H. H. Latimer, Champion Paper and Fibre Company, Hamilton; K. P. Geohegan, Aetna Paper Company, Dayton; R. B. Roe, Sorg Paper Company, Middletown, and J. E. Burdsall, Crystal Tissue Company, Middletown.

William Beckett made a motion to have the secretary cast a single ballot electing the nominees as proposed by the Nominating Committee. W. W. Macklem, of Black-Clawson Company, Hamilton, seconded the motion. The motion passed unanimously.

Beginning the evenings program, Chairman Burdsall introduced J. C. Varkala, representative of Armco International of Paris. Mr. Varkala presented an interesting and informative address on the subject "American Civilians in the War Zone". The speaker told many of his personal experiences and described scenes he had witnessed; some humorous, some pathetic, some tragic, and even some bordering on the romantical side climaxed by his own marriage in France during the German occupation.

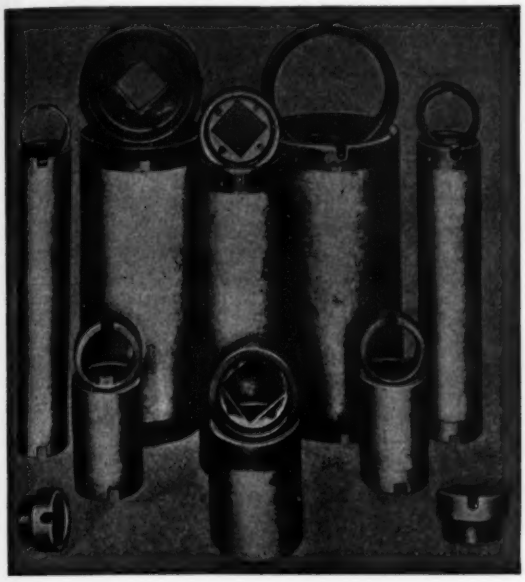
Mr. Varkala concluded his talk by mentioning a few contacts he had with the German occupational troops and how he and his party, after considerable uncertainty, were able to leave France and return to the United States.

Chairman Burdsall next introduced E. A. Phomee, representative of the Bulkley-Dunton Pulp Co. After a few explanatory remarks Mr. Phomee presented two excellent moving pictures. The first picture dramatized the conversion of trees into pulp as carried out by the St. Regis Kraft Co., and Soundview Pulp Co. Very impressive was the sight of the huge digesters, the most modern control methods and recorders for maintaining accurate control of each operation so as to insure uniformly high quality pulp, and the various mechanical aides to the workmen.

The second picture in technicolor revealed the modern logging operations of the Soundview Pulp Co.

There were over 60 members and guests present and among these were:

Sam I. Anderson, Edward Ahlm, M. L. Barker, John Burnett, William Beckett, H. F. Bennett, Duncon S. Brown, Paul Bucheit, Lloyd Bovier, John Burdsall, L. C. Currier, Harry A. Cunningham, Alfred S. Clegg, James Combie, Chas. J. DiCarlo, O. P. Gephart, Richard B. Goble, J. A. Hamm, Jr., O. W. Heim, H. H. Harrison, Harold C. Leighton, W. Macklem, J. A. Nicklis, Carl D. Roess, Charles H. Rybolt, James E. Rooch, Harry D. Raeder, Robert K. Stevenson, Claude A. Sorg, R. H. G. Smith, G. H. Suhs, A. J. Schroeder, A. J. Smith, W. Slattery, Edgar Turnbull, E. A. Thomee, O. E. Teall, J. C. Varkala, Robert R. Weber, Henry Waffenschmidt, M. A. Youtz.



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Straight wound paper cores made in sizes from 2" to 10" inside diameter with any thickness wall required.

Long draw protected slot caps of heavy gauge steel in all standard sizes.

Heavy duty caps with reenforced square hole. This patented feature of reenforcement gives added strength and durability.

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Samples of caps or cores will be gladly submitted

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TENAX FELTS

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Back in 1891 during our first year of making TENAX FELTS, we established our contacts with the papermakers and their superintendents, ascertained their production problems, and agreed to work with them. . . . thus we established a practice still making records for both parties —let TENAX FELTS help YOU!

"Non-Users Are The Losers"

LOCKPORT FELT COMPANY

NEWFANE, N. Y. — U. S. A.

Imports of Paper and Paper Making Stock

Giving Manifests of New York, Boston, Philadelphia and Other Ports of Newsprint, Wrapping, Writing, Coated, Blotting, Tissue, Strawboard; Bleached Sulphite More Acute—Some Grades of Old Waste Lower.

Effective September 30, 1939, under Treasury Decision 49,970, all publications, exchanges and trade associations, were denied access to import manifests at the New York Customs House. The Paper Trade Journal and other interested parties have vigorously protested this ruling, and as soon as the order of the Treasury Department is modified or rescinded, full publication of all manifests will be resumed in these columns. In the interim, the Paper Trade Journal is making every possible effort to gather all available information from manifests, at various outside sources.

NEW YORK IMPORTS

WEEK ENDING MARCH 8, 1941

SUMMARY

Wall paper .....4 cs.
Newsprint .....529 bales, 9,641 rolls
Printing paper .....5 cs.
Wrapping paper .....411 bls., 1,313 rolls
Filter paper .....39 cs.
Drawing paper .....28 cs.
Tissue paper .....29 bbls., 42 cs.
Writing paper .....2 cs.
Miscellaneous paper .....38 cs.

WALL PAPER

——, ——, Liverpool, 4 cs.

NEWSPRINT

Jay Madden Corp., ——, Petsamo, 492 rolls.
H. Reeve Angel & Co., Inc., ——, Petsamo, 1,062 rolls.
Walker-Goulard-Plehn Co., ——, Petsamo, 529 bales.
——, ——, Liverpool, N.S., 4,511 rolls.
——, ——, Port aux Basques, 3,576 rolls.

PRINTING PAPER

——, ——, Liverpool, 5 cs.

WRAPPING PAPER

S. B. Behrens & Co., ——, Petsamo, 135 rolls, 96 bls.
Sharp Paper & Specialty Co., ——, Petsamo, 750 rolls, 51 bls.
Terminal Envelope Corp., ——, Petsamo, 14 bls.
Salwen Paper Co., ——, Petsamo, 141 rolls.
Terminal Paper Co., ——, Petsamo, 95 rolls.
R. L. Stevens, ——, Petsamo, 101 bls.
Walker-Goulard-Plehn Co., ——, Petsamo, 80 rolls.
Superior Paper Co., ——, Petsamo, 112 rolls, 149 bls.

FILTER PAPER

T. B. Tyson, ——, Yokohama, 8 cs.
H. Reeve Angel & Co., Inc., ——, Liverpool, 31 cs.

DRAWING PAPER

H. Reeve Angel & Co., Inc., ——, Liverpool, 28 cs.

TISSUE PAPER

F. C. Strype, ——, Liverpool, 4 cs.
General Electric Co., ——, Petsamo, 38 cs.
W. H. Storms, Co., ——, Petsamo, 29 bbls.

WRITING PAPER

H. Reeve Angel & Co., Inc., ——, Liverpool, 2 cs.

MISCELLANEOUS PAPER

Elliott Addressing Machine Co., ——, Yokohama, 8 cs.
Frisman, Inc., ——, Yokohama, 7 cs.
Japan Paper Co., ——, Kobe, 23 cs.

RAGS, BAGGINGS, ETC.

——, ——, Liverpool, 5 bls. rags.
J. Levy & Sons, ——, Havana, 20 bls. rags.

GLUE STOCK

Darmstadt Scott & Courtney, ——, Buenos Aires, 101 bls.

WOOD PULP

Pulp Sales Corp., ——, Petsamo, 820 bls. prime bleached sulphite, 152 tons; 1860 bls. prime strong sulphite, 340 tons; 1,423 bls. prime strong sulphate, 234 tons.

WOOD PULP BOARDS

H. Fuchs & Son, ——, Petsamo, 403 bls. (pasted white), 32 tons; 136 bls. (solid white), 17 tons.
Jay Madden Corp., ——, Petsamo, 1,318 rolls, 712 bls. (solid white), 561 tons.
Johaneson Wales & Sparre, Inc., ——, Petsamo, 350 rolls (white), 87 tons.

LOS ANGELES IMPORTS

WEEK ENDING MARCH 8, 1941

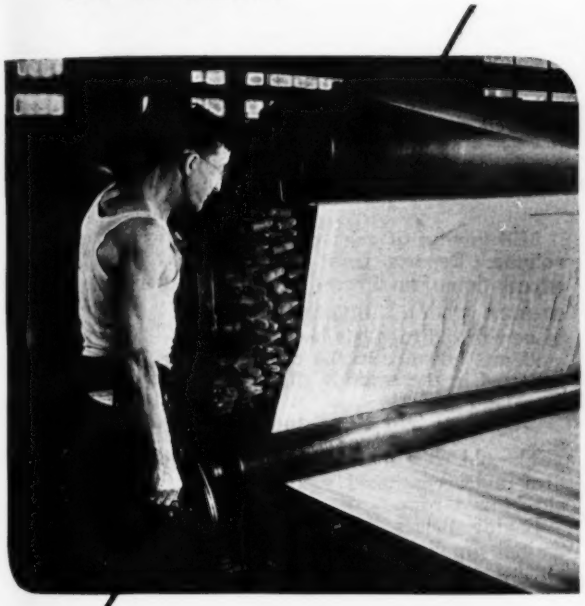
——, ——, Shanghai, 350 bls. rags, 50 bls. cotton waste.
——, ——, Yokohama, 8 bls. hanging paper.
——, ——, Osaka, 3 cs. tissue paper.
——, ——, Kobe, 10 cs. transparent paper.
——, ——, Ocean Falls, 2,614 rolls newsprint.

Debunking Paper Grading Numbers

The monthly report of the Research Reporting Committee, issued March 13 to members of The Cincinnati Club of Printing House Craftsmen, Cincinnati, Ohio, comments on the subject of "debunking the numbers racket in paper grading" as follows:

"The present method of grading papers is a remnant of the NRA period and should have been discarded with the disappearance of the NRA. If its original intention was to educate the buyer of paper and guide him in the selection of his requirements, it was the poorest kind of an education. It was more than that. It was a fraud. It has lulled him into the belief that the papers of all paper mills, carrying similar designations, are alike in quality, formation, printability and price, when, as a matter of fact, nothing is further from the truth. It has enabled mills that have neither the equipment nor the ability to manufacture good papers, to give their products a position which they never occupied before. It has opened a wide avenue of 'legitimate' cheating to the unscrupulous seller of paper who, in full appreciation of the fact that numbers and letters are not patented articles, was not slow in appraising the value of its uses and had no hesitancy in labeling an 'E' grade Book Paper with the letter 'C' and quoting 'F' grade prices on it. It has subordinated all of the essential elements that really go to make a paper good or bad, for the artificial and unscientific method of numbers. It has taken the mill with a background for quality and fine craftsmanship, with years of experience in the manufacture of certain grades, and finally, with up-to-date modern machinery, and put it in the same category with mills that have neither one nor the other. It has placed the honest and legitimate merchant at a disadvantage in being compelled to meet the sordid competition of the unethical dealer who juggles these numbers with the same ease that he juggles his conscience."

...HERE'S THE WAY ORR PUTS A NAP ON A FELT



Little thistle-like teasels, specially grown for Orr Felt in Oregon, are placed on a revolving drum. Their stiff points dig into the felt as it passes by, raising the wool fibres to form a nap.

This operation is far more difficult than it may appear. For one thing, it requires a trained operator, like this twenty-year veteran, to handle the controls. Then, each different type felt requires a different treatment—depending on the type of nap desired.

The care taken to nap an Orr Felt correctly is typical of the care taken in all Orr Felt departments. The result—felts superior by actual comparison—felts that will show you the true meaning of long life and thorough water removal. Next time, specify Orr Felts.

Orr Felt & Blanket Co.

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THE outstanding success of Witco carbon blacks is due in no small part to the company's research activity in improving the quality of this product and adapting it to the changing needs of industry. This activity today continues on an even more intensive and extensive scale.

In Wishnick-Tumpeer's new research laboratory, completely air conditioned and equipped with the finest facilities, our staff strives constantly to increase the efficiency of carbon black and to promote, through skilled laboratory cooperation, profit and economy for customers using this important material.

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New York, 295 Madison Ave. • Boston, 141 Milk St. • Chicago, Tribune Tower Cleveland, 616 St. Clair Ave., N. E. • Dallas, Texas, 610 Dallas National Bank Building • Witco Affiliates: Witco Oil & Gas Company • The Pioneer Asphalt Company • Panhandle Carbon Company • Foreign Office, London, England

BUY DIRECT AND PROFIT DIRECTLY

New York Paper and Pulp Market Review

Broader Demand and Firmer Prices Are Reflected In Many Grades of Paper This Week—Paper Board and Kraft Paper Lines Strong — Chemical Pulp Market More Active — No. 1 Mixed Higher.

Office of the PAPER TRADE JOURNAL,
Wednesday, March 12, 1941.

The sales trend in the wholesale paper market continues upward, according to reports received from many manufacturers' representatives, jobbers, and general paper merchants during the current week. The index of general business activity indicates advances in six of the eight components comprising the index, including paper board output.

The trend of general business activity, particularly industrial production, continues to advance at an accelerated rate under the urgency of the defense program. Although materials and goods most essential to rearmament plans are most benefited, the sales of other goods in wide variety, including paper, are also stimulated by large government expenditures. A sign of this increased activity is reflected in advancing commodity prices. The index of the Bureau of Labor Statistics for the week ended March 1, advanced 1.5% to 125.6% for that period. This is the highest point reached since September 28, 1939, and less than 2% below the peak following the start of the European conflict.

The index of general business activity rose to 122.6% for the week ended March 1, from 121.6% for the preceding week, compared with 101.4% for the corresponding week last year.

Paper production for the week ended March 1 was estimated at 88.9%, compared with 83.5% for 1940, with 81.6% for 1939, with 67.8% for 1938, and with 89.2% for the corresponding week for 1937.

Paper board production for the week ended March 1 was 82.0%, compared with 69.0% for 1940, with 68.0% for 1939, with 59.0% for 1938, and with 86.0% for the corresponding week for 1937.

Encouraging reports fro mthe trade reflect the view that a broader demand for paper is beginning and that sales volume in some lines wil steadily advance. The kraft paper division of the industry is now in a very strong position, with current orders above production, with most mills operating at capacity. The backlog of orders is relatively small at this date, but reports from some quarters of the trade express concern about the possibility of a lack of shipping facilities later on. Exports of kraft paper are now reported handicapped by lack of cargo space. As the production of military goods continues to sharply increase, some business men reason, a bottleneck is likely to be experienced in shipping facilities to South American ports. Paper and pulp shipments from the Pacific Coast are reported moving without apparent difficulty at this date.

The paper market is active and prices are firm. Paper board is strong, with prices firm. No important change from prevailing market quotations has been reported this week.

Mechanical Pulp

No important change in the market situation of mechanical pulp has been reported this week. Demand continues good, production at a high level and prices are unchanged.

Chemical Pulp

Demand for chemical pulp is a little more active at this date, with little tonnage of the prime grades available. The shortage in the good grades of unbleached sulphite and in northern kraft pulps is being more and more acutely experienced by mills. Prices are well maintained for the second quarter and are the same as announced for the first quarter of the current year.

Rags

Mill buying of rags continues steady and in fair volume. Reports from some quarters indicate the expectation of an upward revision from current levels on some grades, but no change in prices on any grade of new or old rags has been reported at this date. A moderate advance in the roofing grades, however, is expected in the trade in the near future.

Old Rope and Bagging

The old rope market continues steady. Prices are firm under continued reports of limited supplies of old Manila rope.

Baging prices are firm under the influence of limited supplies. No important change in prices has been reported this week.

Old Waste Paper

The paper stock market continues strong and prices on most grades are firm. The only important change reported this week was an advance in No.1 mixed paper, currently quoted at from .42½ to .47½.

Twine

Trade reports reflect a stronger tone in the twine market at this date. Prices are firm on all standard grades of hard and soft twines, with no changes reported this week.

Kalamazoo Paper Co. to Hold Election

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., March 12, 1941—National Labor Relations Board has announced that the production and maintenance employees of Kalamazoo Paper Company, Kalamazoo, Mich., will participate in a secret ballot election within 30 days to determine whether or not they desire to be represented by Local 52, International Brotherhood of Paper Makers, (AFL).

In November, 1940, the union requested the company to meet with it for the purpose of negotiating a labor agreement. The company refused such request on the ground that it could not fairly decide who should represent its employees. Shortly thereafter the union petitioned the Board to investigate and certify collective bargaining representatives.

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POCKET PAPER SCALE
Made in U.S.A.

Gives ream weight of sizes 22x34—24x36—25x38 by weighing a 2x4 in. sample. Price $25.00 complete in neat plush lined box and templates.

FULLY GUARANTEED $10.50 with leather case. Old, inaccurate scales, micrometers and other testers recalibrated and made over like new.

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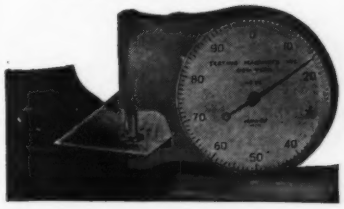

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Range 5/16 in. 1/1000 in. div.

More than just a TRADE MARK

EXCELSIOR KNOX Woolen Co. Camden, Me. FELTS & JACKETS

BUT also a guarantee by men who for 75 years have prided themselves in making finer felts. TO YOU —this is the mark of dependability, longer felt life and greater saving.

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West Virginia Pulp and Paper Company

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503 Market St. San Francisco, Cal.

Manufacturers of
ENGLISH FINISH SUPERCALENDERED
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MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, March 12, 1941.

BLANC FIXE—Prices on blanc fixe are firm and unchanged and conform to prevailing market levels. The pulp is currently quoted at $35 per ton, in barrels, at works; the powder is currently quoted at $50 per ton, f.o.b., works. Demand reported moderate for the week.

BLEACHING POWDER—Quotations on bleaching powder are firm. Shipments reported steady for the week. Bleaching powder is currently quoted at $2 per 100 pounds, in drums, at works.

CASEIN—Prices on casein are firm, with prices unchanged for the current week. Standard domestic casein, 20-30 mesh, is currently quoted at 12½ cents per pound; 80-100 mesh, at 13 cents per pound. All prices in bags, car lots. Argentina casein, 20-30 mesh, is currently offered at 12 cents per pound. No quotations on French casein.

CAUSTIC SODA—Quotations on caustic soda are firm and continue unchanged at prevailing market prices. Demand reported good. Solid caustic soda is currently quoted at $2.30 per 100 pounds; flake and ground at $2.70 per 100 pounds, in drums, at works.

CHINA CLAY—Prices on china clay are firm and conform to prevailing market levels. Demand reported moderate at this date. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay at from $12 to $22 per ton, at mines. Imported clay is currently offered at from $13 to $25 per ton, ship side.

CHLORINE—Quotations on chlorine are firm and unchanged. Market firm. Shipments reported heavy for the current week. Chlorine is currently quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b., works.

ROSIN—The rosin market is reported firm for the week with prices higher on some grades. "G" gum rosin is currently quoted at $1.69 per 100 pounds, in barrels, Savannah "FF" wood rosin is currently quoted at $1.69 per 100 pounds, in barrels, New York. Seventy per cent gum rosin size is quoted at $2.43 per 100 pounds, f.o.b., works.

SALT CAKE—Prices on salt cake are firm and nominal. Demand good. Domestic salt cake is currently quoted at $17 per ton, in bulk; chrome cake at $16 per ton. All prices in car lots, f.o.b., shipping point. The quotation of $16.50 per ton on imported salt cake is nominal.

SODA ASH—Quotations on soda ash are firm and continue to conform to prevailing market levels. Demand reported good for the week. Prices on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Prices on corn starch are moderately firm and continue unchanged for the current week. Pearl is currently quoted at $2.90 per 100 pounds; powdered starch at $3 per 100 pounds. All prices in bags, car lots, f.o.b., Chicago.

SULPHATE OF ALUMINA—Quotations on sulphate of alumina are firm. Demand reported good for the current week. The commercial grades are currently quoted at $1.15; iron free at $1.60 per 100 pounds. All prices in bags, car lots, f.o.b., works.

SULPHUR—Prices on sulphur are firm and conform to prevailing market levels. Annual contracts are currently quoted at $16 per long ton, f.o.b., mines. Spot and nearby car lots are quoted at $19 per ton.

TALC—Quotations on talc are firm and continue unchanged at prevailing market prices. Domestic talc is currently quoted at from $15 to $21 per ton, at mines. No quotations on imported talc.

MARKET QUOTATIONS

Paper

(Delivered New York)

News, per ton—			
Roll, contract	$50.00	@	—
Sheets	58.00	"	—
Kraft—per cwt.—Delivered Zone A			
Northern, Extra Quality	$5.25	@	$5.75
Superstandard	4.87½	"	5.25
Northern Standard Wrapping	4.37½	"	4.62½
Standard Wrapping	4.25	"	—
Tissues—Per Ream—Carlots			
White No. 1	.97½	"	—
White No. 1 M. G.	.95	"	—
White No. 1½	.80	"	—
White No. 2	.75	"	—
Anti-Tarnish M. G.	.80	"	—
Colored	.85	"	—
Kraft	.87½	"	—
Manila	.77½	"	—
Unbl. Toilet, 1 M.	3.75	"	—
Bleached Toilet	5.26	"	—
Paper Towels, Per Case—			
Unbleached, Jr.	2.10	"	—
Bleached, Jr.	3.60	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute	8.25	@	10.25
No. 1 Manila Wrapping, 35 lb.	5.25	"	—
No. 2 Manila Wrapping, 35 lb.	5.00	"	—
Boards, per ton—			
News	42.50	@	—
Chip	40.00	"	—
Sgl. Mla. Ll. Chip	55.00	"	—
White Pat. Coated	70.00	"	—
Kraft Liners	55.00	"	—
Binders Boards	73.00	"	80.00

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers	
100% Rag Ext. No. 1	$39.10	@ $46.00	$40.25	@ $47.25
100% Rag	31.05	" 36.50	32.20	" 37.75
85% Rag	....	"	29.90	" 35.00
75% Rag	23.60	" 27.75	24.75	" 29.00
65% Rag	....	"	21.65	" 26.25
50% Rag	17.55	" 21.50	18.70	" 22.75
25% Rag	14.65	" 17.75	15.80	" 19.25

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds		Ledgers	
No. 1	$9.35	@ $11.50	$11.55	@ $12.75
No. 2	8.50	" 10.25	9.65	" 11.75
No. 3	8.05	" 9.25	9.20	" 11.25
No. 4	7.70	" 9.50	8.90	" 10.75

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper.

Delivered in Zone 1:

No. 1 Glossy Coated	$11.90	@	$13.50
No. 2 Glossy Coated	10.35	"	11.75
No. 3 Glossy Coated	9.55	"	11.00
No. 4 Glossy Coated	9.15	"	10.50
No. 1 Antique (watermarked)	9.05	"	10.50
No. 2 Offset	8.40	"	9.75
A Grade E. F.	8.20	"	9.50
A Grade S. & S. C.	8.45	"	9.75
B Grade E. F.	7.65	"	8.75
B Grade S. & S. C.	7.90	"	9.00
C Grade E. F.	7.35	"	8.50
C Grade S. & S. C.	7.60	"	8.75
D Grade E. F.	7.10	"	8.25
D Grade S. & S. C.	7.35	"	8.50

Ivory & India at $.50 cwt. extra.

Mechanical Pulp

(On Dock, Atlantic Ports)

No. 1 Imported—			
Moist	No prices		
Dry	No prices		
(Delivered)			
No. 1 Domestic and Canadian	40.00	@	42.00

Chemical Pulp

(On Dock, Atlantic, Gulf and West Coast Ports)

Bleached Sulphite (Domestic and Foreign)—			
Prime Bleached Sulphite	3.72½	@	3.87½
Prime Qualities—Easy-Bleaching Sulphite	3.17½	"	3.75
Strong Unbleached Sulphite	3.17½	"	3.75
News Grade, delivered Unbleached Sulphite	58.00	"	63.75
(On Dock, Atlantic Ports)			
Kraft Bleached	4.12½	"	—
Kraft Light & Strong	3.50	"	3.90
Kraft No. 1	3.40	"	3.80
(F. o. b. Pulp Mill)			
Kraft Domestic and Canadian	2.75	"	3.37½
(Delivered)			
Soda Bleached	3.30	"	—

Add 60 cents per short ton, dock charges for Albany; $2.50 for Lake Ports East and $3.50 for Lake Ports West of Mackinac Straits.

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1.	6.12½	@	6.37½
Silesias No. 1	4.50	"	4.65
New Unbleached	6.12½	"	6.37½
Blue Overall	4.15	"	4.50
Fancy	3.25	"	3.50
Washables	2.00	"	2.10
Mixed Khaki Cuttings	2.75	"	3.00
O. D. Khaki Cuttings	3.00	"	3.15

Old Rags

White, No. 1—			
Repacked	3.50	"	3.65
Miscellaneous	2.75	"	3.00
White, No. 2—			
Repacked	2.50	"	2.75
Miscellaneous	2.00	"	2.25
Thirds and Blues—			
Repacked	1.50	"	1.65
Miscellaneous	1.10	"	1.25
Roofing Rags—			
No. 1	1.15	"	1.20
No. 2	1.00	"	1.05
No. 3 (bagging)	.90	"	1.00
No. 4	.60	"	.65
No. 5A	.60	"	.65

Foreign Rags

All prices nominal.

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.35

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—

ENGLISH ECCO CLAYS CLAYS

ECCO CLAYS
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Greaker, Norway
BERGVIK OCH ALA NYA AKTIEBOLAG
Söderhamn, Sweden
CELLULOSEFABRIKS A.-G.
Bratislava, Czecho-Slovakia
SVANÖ AKTIEBOLAG
Svanö, Sweden

No. 4 White Linens.	2.25	@	3.25
No. 1 White Cotton.	4.25	"	4.75
No. 2 White Cotton.	3.25	"	3.75
No. 3 White Cotton.	2.50	"	3.00
No. 4 White Cotton.	1.90	"	2.20
Extra Light Prints..	2.00	"	2.40
Ord. Light Prints...	1.75	"	2.15
Med. Light Prints...	1.55	"	1.95
Dutch Blue Cottons.	2.25	"	2.50
French Blue Linens.	3.00	"	—
Checks and Blues...	2.00	"	—
Linsey Garments....	1.90	"	2.00
Dark Cottons.....	1.50	"	1.60
Old Shopperies.....	1.30	"	1.45
New Shopperies.....	1.45	"	1.50
French Blues	2.25	"	2.50

Old Rope and Bagging

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	2.50	@	2.75
Wool Tares, light....	2.00	"	2.25
Wool Tares, heavy..	2.12½	"	2.25
Bright Bagging	2.25	"	2.50
Manila Rope—			
Foreign	5.25	"	5.50
Domestic	5.25	"	5.50
Jute Threads.....	2.75	"	3.00
Sisal Strings	2.10	"	2.35
Mixed Strings.....	1.10	"	1.20

Old Waste Papers

(F. o. b. New York)

Shavings—			
White Envelope Cuttings	3.10	@	3.25
Ordinary Hard White No. 1....	2.25	"	2.50
Soft White No. 1..	1.80	"	1.90
Soft White Extra..	2.50	"	2.60
Flat Stock—			
Stitchless	1.10	"	1.25
Overissue Mag.....	.90	"	1.00
Solid Flat Book...	.80	"	.85
Crumbled No. 1...	.70	"	.75
Ledger White Stock.	1.60	"	1.70
Ledger Stock Colored	1.20	"	1.30
Manila—			
New Env. Cut....	1.70	"	1.80
New Cuttings.....	1.30	"	1.40
Old Kraft Machine Compressed bales..	1.40	"	1.50
News—			
No. 1 White News	1.75	"	1.90
Strictly Overissue..	.70	"	.75
Strictly Folded....	.57½	"	.62½
Corrugated	.55	"	.60
No. 1 Mixed Paper..	.42½	"	.47½

Twines

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.18	@	—
White Hemp.....	.18	"	—
Fine Polished—			
Fine India	.22	"	—
Unpolished—			
Box	.16	"	—
Paper Makers.....	.13	"	—
Tube Rope.....	.14¾	"	—
Wall Paper.....	.16	"	—
Wrapping	.16	"	—
Soft Fiber Rope...	.14	"	—
Cotton	.24	"	—

(Hard Fiber)

Medium Java.....	.10	"	—
Mex. Sisal	.09½	"	—
Manila	.23	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White No. 1.	.07	@	.07¼
New White No. 2.	.03½	"	.04
Light Silesias.....	—	"	.04½
Silesias, No. 1.....	—	"	.04
Black Silesias, soft	—	"	.03
New Unbleached..	.06	"	.06¼
Washable Prints...	.02¼	"	.02½
Washable No. 1..	—	"	.01½
Blue Overall.....	.04	"	.04½
Cottons—According to grades—			
Washable shredding	—	"	.01½
Fancy Percales....	—	"	.03
New Black Soft...	.02½	"	.02¾
New Light Seconds	—	"	.04
New Dark Seconds	—	"	1.50
Khaki Cuttings—			
No. 1 O. D.....	.03½	"	.03¾
No. 2 Mixed.....	.01¾	"	.02
Corduroy	.01¾	"	.01½
New Canvas.....	.04½	"	.05
New Black Mixed.	—	"	.02¼

Domestic Rags (Old)

White No. 1—			
Repacked	3.00	@	3.50
Miscellaneous	2.75	"	3.00
Thirds and Blues—			
Miscellaneous	1.35	"	1.50
Repacked	1.55	"	1.65
Black Stockings (Export)	3.50	"	4.00
Roofing Stock—			
Foreign No. 1....	Nominal		
Domestic No. 1...	1.30	"	1.35
Domestic No. 2...	1.10	"	1.15
Roofing Bagging..	1.00	"	1.05

Bagging

(F. o. b. Phila.)

Gunny, No. 1—			
Foreign	Nominal		
Domestic	2.25	@	2.50
Manila Rope.....	—	"	5.50
Sisal Rope.....	2.00	"	2.25
Mixed Rope.....	.75	"	1.00
Scrap—			
No. 1.....	2.55	"	2.75
No. 2.....	—	"	1.50
Wool Tares, heavy..	3.75	"	4.00
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	2.25	"	2.50

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	2.40	@	2.50
No. 2 Hard White	2.10	"	2.15
No. 1 Soft White.	1.90	"	2.00
No. 2 Soft White.	1.60	"	1.75
No. 1 Mixed.....	.90	"	1.00
Solid Ledger Stock..	1.90	"	2.00
Ledger Stock, white.	1.50	"	1.60
Ledger Stock, colored	1.20	"	1.25
No. 1 Books, heavy..	.85	"	.90
Manila Cuttings.....	1.75	"	1.80
Print Manila.....	.50	"	.55
Container Manila....	.40	"	.45
Kraft Paper	1.40	"	1.45
No. 1 Mixed Paper..	.35	"	.40
Straw Board Chip...	.35	"	.40
Binders Board Chip..	.35	"	.40
Corrugated Board...	.55	"	.60
Overissue News.....	.70	"	.75
Old Newspapers.....	.55	"	.60

BOSTON

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.90	"	3.00
No. 1 Soft White	2.75	"	2.50
No. 2 Mixed.....	.75	"	.80
Solid Ledger Books..	1.50	"	1.75
Overissue Ledger Stock	1.75	"	2.00
Mixed Ledgers.....	1.50	"	1.75
No. 1 Heavy Books	1.10	"	1.20
No. 1 Books, Light..	.75	"	.85
Crumpled Stitchless Book Stock.....	1.10	"	1.20
Manila Env. Cuttings	1.85	"	2.00
Manila Envelope Cuttings, extra quality	2.35	"	2.60
White Blank News..	1.40	"	1.50
No. 1 Kraft.....	1.25	"	1.30
Extra No. 1 Kraft..	1.45	"	1.50
Mixed Papers.....	.30	"	—
Print Manila	.55	"	.60
Container Manila....	.60	"	.70
Old Newspapers.....	.50	@	.55
Paper Wool Strings.	.95	"	1.10
Overissue News.....	1.00	"	1.10
Box Board Chips....	.40	"	.45
Corrugated boxes....	.50	"	.55
Kraft corrugated boxes	.95	"	1.00
New Kraft Corrugated Cuttings	1.50	"	1.60
Screening Wrappers.	.70	"	.80

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	3.00	"	—
Domestic	2.80	"	3.00
Sisal Rope.....	2.90	"	3.00
Mixed Rope	.85	"	1.00
Transmission Rope—			
Foreign	2.50	"	2.75
Domestic	2.75	"	2.90
Soft Jute Rope.....	3.50	"	3.75
Manila Rope—			
Foreign	5.25	"	5.35
Domestic	5.50	"	5.75
Jute Carpet Threads	2.00	@	2.25
Bleachery Burlap....	4.00	"	3.25
Scrap Burlap—			
Foreign	2.60	"	2.65
Domestic	2.60	"	2.75
Scrap Sisal.....	2.75	"	3.00
Scrap Sisal for Shredding	2.90	"	3.25
Wool Tares—			
Foreign	2.70	"	2.80
Domestic	2.50	"	2.60
Aust. Wool Pouches.	2.75	"	3.00
New Burlap Cuttings	3.75	"	4.00
Heavy baling bagging	2.75	"	3.00
Paper Mill Bagging..	1.75	"	2.00
No. 2 Bagging.....	.75	"	.80

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints.	—	@	.03
Fancy Percales....	.04	"	.04¼
New White No. 1.	.06¾	"	.07
New Light Flannelettes	.05	"	.05¼
Canton Flannel, Bleached	.0625	"	.0650
Underwear Cutters, Bleached	.06	"	.0625
Silesias No. 1.....	.05	"	—
New Black Silesias..	3.00	"	3.25
Red Cotton Cuttings	.04	"	.05
Soft Unbleached....	.06	"	.06¼
Blue Cheviots.....	.04¼	"	.04½
Fancy	.02	"	.02½
Washable	.02	"	.02½
Cottons—According to Grades—			
Blue Overalls.....	.04¼	"	.04¾
New Black, Soft..	.03	@	.03¼
Khaki Cuttings.....	.02¼	"	.03
O. D. Khaki.....	.02½	"	.03¼
Corduroy	.06¾	"	.07¼
New Canvas.....	.06¾	"	.07¼
B. V. D. Cuttings...	.06½	"	.06¾

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	2.75	@	3.75
Miscellaneous	2.40	"	2.60
White No. 2—			
Repacked	1.90	"	2.00
Miscellaneous	2.00	"	2.25
Twos and Blues.....	2.00	"	2.25
Old Blue Overalls....	1.60	"	2.00
Thirds and Blues....	1.50	"	1.75
Miscellaneous	1.25	"	1.35
Black Stockings.....	3.50	"	4.00
Roofing Stock—			
No. 1.....	1.20	"	1.25
No. 2.....	.95	"	1.00
No. 3.....	.85	"	.95

Foreign Rags

(F. o. b. Boston)

Canvas	.04½	@	—
Dark Cottons.....	(nominal)		
Dutch Blues.....	(nominal)		
New Checks and Blues	(nominal)		
Old Fustians.....	(nominal)		
Old Linsey Garments.	(nominal)		
New Silesias.....	(nominal)		

CHICAGO

Waste Paper

(F. o. b. Chicago)

Shavings—			
No. 1 White Envelope Cuttings....	3.15	@	—
No. 1 Hard White	2.50	"	2.65
No. 1 Soft White.	2.00	"	2.20
Ledger and Writings	.85	"	.95
Solid Books.....	.95	"	1.10
Blanks	1.50	"	1.60
Krafts	1.40	@	1.50
New Kraft Cuts....	1.60	"	1.75
Overissue News.....	1.00	"	1.10
Old Newspapers—			
No. 1 Folded News	.70	"	.80
No. 1 Mixed Paper	.40	"	.50
Roofing Stocks—			
No. 1.....	.95	"	1.00
No. 2.....	.85	"	.90

Waste Men to Consider Rag Problems

The Associated Rag Industries, the Division of the National Association of Waste Material Dealers, Inc. handling cotton and woolen rag problems, is to have a very interesting meeting at the time of the Association Convention in Chicago. There are three matters of particular interest that are pending at this time, according to a statement issued recently from the Association's Executive offices in New York.

The Fulmer Net Weight Bill which passed the House at the last session of Congress was reintroduced at the present session and was called up in the House on Monday, March 3. However, possibly due to the many telegrams of protest received from the above association and others, it was passed over and will now be called up on March 17.

Another bill which is very vital to the entire paper manufacturing industry is H.R. 99, also introduced by Congressman Fulmer and referred to the Committee on Agriculture of which Mr. Fulmer is now chairman. This bill would require the use of substantial quantities of cotton in paper which would displace wood pulp and to some extent undoubtedly cotton rags.

There will be a discussion of both of these important bills and, in addition, there is, of course, still pending the proposition to give to the Writing Paper Manufacturing Industry a subsidy on a substantial tonnage of raw cotton.

Consolidated Paper Issues Stock

The Consolidated Paper Corporation reports that the company has issued, in payment of interest, 694½ shares of capital stock, bringing the number outstanding to $2,550,636 450/1000 shares.